

BALTIMORE AND SUSQUEHANNA
Railroad. The Passenger train runs daily except Sunday, as follows:

Leaves Baltimore at 9 a.m., and arrives at 6 1/2 p.m. Arrives at York at 12 1/2 p.m., and leaves for Columbia at 1 1/2 p.m. Leaves Columbia at 2 p.m., and leaves York for Baltimore at 3 p.m. Fare to York \$2. Wrightsville \$2 50, and Columbia \$3 62 1/2. The train connects at York with stages for Harrisburg, Gettysburg, Chambersburg, Pittsburg and York Springs.

Fare to Pittsburg. The company is authorized by the proprietors of Passenger lines on the Pennsylvania improvements, to receive the fare for the whole distance from Baltimore to Pittsburg. Baltimore to Pittsburg.—Fare through, \$9 and \$10.

Afternoon train. This train leaves the ticket office daily, Sundays excepted, at 3 1/2 p.m. for Cockeysville, Parkton, Green Springs, Owings' Mills, etc.

Returning, leaves Parkton at 6 and Cockeysville and Owings' Mills at 7, arriving in Baltimore at 9 o'clock a.m.

Tickets for the round trip to and from any point can be procured from the agents at the ticket offices or from the conductors in the cars. The fare when tickets are thus procured, will be 25 per cent. less, and the tickets will be good for the same and following day any passenger train.

D. C. H. BORDLEY, *Sup't.*

31 ly

Ticket Office, 63 North st.

CENTRAL RAILROAD-FROM SAVANNAH
to Macon. Distance 190 miles.

This Road is open for the transportation of Passengers and Freight.

Rates of Passage, \$8 00. Freight—

On weight goods generally... 50 cts. per hundred.

On measurement goods..... 13 cts. per cubic ft.

On brls. wet (except molasses and oil).....\$1 50 per barrel.

On brls. dry (except lime)... 80 cts. per barrel.

On iron in pigs or bars, castings for mills, and unboxed machinery..... 40 cts. per hundred.

On hhd. and pipes of liquor, not over 120 gallons.....\$5 00 per hhd.

On molasses and oil.....\$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded free of commission. THOMAS PURSE,

40 Gen'l. Sup't. Transportation.

GEORGIA RAILROAD. FROM AUGUSTA
to ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA TO OOTHICALOGA, 80 MILES.

This Road in connection with the South Carolina Railroad and

Western and Atlantic Railroad now forms a continuous line, 388 miles in length, from Charleston to Oothicaloga on the Oostenanla River, in Cass Co., Georgia.

Rates of Freight, and Passage from Augusta to Oothicaloga.

On Boxes of Hats, Bonnets, and Furniture per foot.....16 cts.

" Dry goods, shoes, saddlery, drugs, etc., per 100 lbs.....95 "

" Sugar, coffee, iron, hardware, etc.....65 "

" Flour, bacon, mill machinery, grindstones, etc.....33 1/2 "

" Molasses, per hogshead \$9-50; salt per bus. 20 "

" Ploughs and cornshellers, each.....75 "

Passengers \$10-50; children under 12 years of age half price.

Passengers to Atlanta, head of Ga. Railroad, \$7.

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight may be paid at Augusta, Atlanta, or Oothicaloga.

J. EDGAR THOMSON,

Ch. Eng. and Gen. Agent.

Augusta, Oct. 21 1845. *44 ly

WHARF BOLTS. THE SUBSCRIBERS
are now ready to Contract to deliver

Wharf Bolts, at a reduction of 10 per cent. on last year's prices. SAM'L KIMBER & CO.

8 ft. 59 North Wharves, Philadelphia.

WESTERN AND ATLANTIC RAILROAD.

The Western and Atlantic Railroad is now in operation to Marietta, and will be opened to Cartersville, in Cass county, on the 20th of October—and to Coosa Depot, (formerly known as Borough's,) on the 20th of November.

The passenger train will continue, as at present to connect daily (Sundays excepted) with the train from Augusta, and the stage from Griffin.

CHAS. F. M. GARNETT.

Chief Engineer.

LITTLE MIAMI RAILROAD. — DISTANCE 65 1/2 Miles.

Fare, \$1 50. From 1st November to 1st March Passenger Trains leave Cincinnati for

Xenia at 11 o'clock, A.M.

Returning, leaves Xenia at 8 1/2 o'clock, A.M.

Freight Trains run daily, Sundays excepted.

At Xenia, Passenger Trains connect with daily lines of stages to Columbus, Wheeling, Cleveland and Sandusky city.

W. H. CLEMENT,

Supt. and Engineer.

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LEXINGTON AND OHIO RAILROAD.

Trains leave Lexington for Frankfort daily, at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lexington daily, at 8 o'clock a.m. and 2 p.m. Distance, 28 miles. Fare \$1-25.

On Sunday but one train, 5 o'clock a.m. from Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to 15th March) is 6 o'clock a.m. from Lexington, and 9 a.m. from Frankfort, other hours as above.

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NICOLL'S PATENT SAFETY SWITCH

for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee.

G. A. NICOLLS,

Reading, Pa.

ja45

KEARNEY FIRE BRICK. F. W. BRINLEY,

Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, } New York.

Peter Cooper, } New York.

Murdock, Leavitt & Co. } New York.

J. Triplett & Son, Richmond, Va.

J. R. Anderson, Tredegar Iron Works, Richmond, Va.

J. Patton, Jr. } Philadelphia, Pa.

Colwell & Co. } Philadelphia, Pa.

J. M. L. & W. H. Scovill, Waterbury, Con.

N. E. Screw Co. } Providence, R. I.

Eagle Screw Co. } Providence, R. I.

William Parker, Supt. Bost. and Worc. R. R.

New Jersey Malleable Iron Co., Newark, N. J.

Gardner, Harrison & Co. Newark, N. J.

25,000 to 30,000 made weekly. 35 ly

DAVIS, BROOKS & CO., 30 WALL ST.,

have on hand for sale,

Railway Iron of different sizes—heavy and flat bars.

A Steam Pile Driver—built by "Dunham & Co."—in complete order; has never been used, and for sale a bargain. Cost originally \$5,000. Also 12

Railway Passenger Cars, that have never been used, which will be sold a bargain. 8 ft

PROVIDENCE & WORCESTER R. R.

Notice to Contractors. The time for receiving proposals has been extended to the 11th March. The route is ready for examination, and blank proposals and specifications may be had at Worcester and Providence. All proposals must be sealed, accompanied by names of references and sureties, and directed to the engineer, at Providence, prior to the above date.

8 4t T. WILLIS PRATT, Engineer.

MACHINE WORKS OF ROGERS,

Ketchum & Grosvenor, Patterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery

of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,

a45 Paterson, N. J., or 60 Wall street, N. York.

TO RAILROAD COMPANIES AND MANUFACTURERS
of railroad Machinery. The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,

ja45 N. E. cor. 12th and Market sts., Philad., Pa.

THE SUBSCRIBERS, SOLE AGENTS
for the sale of

Codorus, } Pig Iron.

Glendon, }

Spring Mill, and }

Valley, }

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay, orders for which are promptly supplied.

SAM'L KIMBER & CO.,

59 North Wharves,

Jan. 14, 1846. [1y4] Philadelphia, Pa.

GEORGE VAIL & CO., SPEEDWELL IRON

Works, Morristown, Morris Co., N. J.—Manufacturers of Railroad Machinery; Wrought Iron Tires, made from the best iron, either hammered or rolled, from 1 1/2 in. to 24 in. thick.—bored and turned outside if required. Railroad Companies wishing to order, will please give the exact inside diameter, or circumference, to which they wish the Tires made, and they may rely upon being served according to order, and also punctually, as a large quantity of the straight bar is kept constantly on hand.—Crane Axles, made from the best refined iron; Straight Axles, for Outside Connection Engines; Wrought Iron Engine and Truck Frames; Railroad Jack Screws; Railroad Pumping and Sawing Machines, to be driven by the Locomotive; Stationary Steam Engines; Wrought Iron work for Steamboats, and Shafting of any size; Grist Mill, Saw Mill and Paper Mill Machinery; Mill Gearing and Mill Wright work of all kinds; Steam Saw Mills of simple and economical construction, and very effective

Iron and Brass Castings of all descriptions. ja45 ly

RAILROAD IRON AND LOCOMOTIVE
Tyres imported to order and constantly on hand
by **A. & G. RALSTON**
Mar. 20th 4 South Front St., Philadelphia.

THE NEWCASTLE MANUFACTURING
Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gear of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.
ANDREW C. GRAY,
a45 President of the Newcastle Manuf. Co.

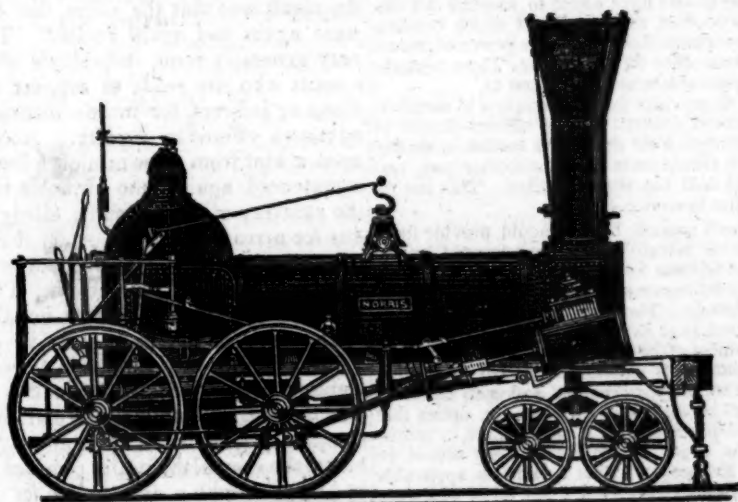
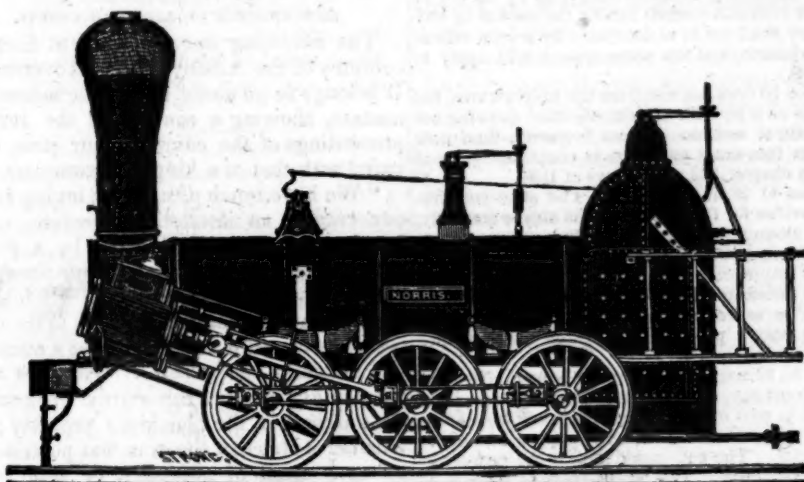
CUSHMAN'S COMPOUND IRON RAILS—etc. The Subscriber having made important improvements in the construction of rails, mode of guarding against accidents from insecure joints, etc.—respectfully offers to dispose of Company, State Rights, etc., under the privileges of letters patent to Railroad Companies, Iron Founders, and others interested in the works to which the same relate. Companies reconstructing their tracks now have an opportunity of improving their roads on terms very advantageous to the varied interests connected with their construction and operation; roads having in use flat bar rails are particularly interested, as such are permanently available by the plan.

W. Mc. C. CUSHMAN, Civil Engineer,
Albany, N. Y.

Mr. C. also announces that Railroads, and other works pertaining to the profession, may be constructed under his advice or personal supervision. Applications must be post paid.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.



MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class 1,	15 inches Diameter of Cylinder,	× 20 inches Stroke.
" 2,	14 " " " " " "	× 24 " "
" 3,	14½ " " " " " "	× 20 " "
" 4,	12½ " " " " " "	× 20 " "
" 5,	11½ " " " " " "	× 20 " "
" 6,	10½ " " " " " "	× 18 " "

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion. Castings of all kinds made to order: and they call attention to their Chilled Wheels on the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to 1 in calibre and 3 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T, L, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER PLANS.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

RAILROAD IRON.—THE MARYLAND AND NEW YORK IRON AND Coal Company are now prepared to make contracts for Rails of all kinds. Address the Subscriber, at Jennon's Run, Alleghany County, Maryland.
WILLIAM YOUNG,
President.

TO IRON MASTERS.—FOR SALE.—MILL SITES in the immediate neighborhood of *Biluminous Coal* and *Iron Ore*, of the first quality, at Ralston, Lycoming Co., Pa. This is the nearest point to tide water where such coal and ore are found together, and the communication is complete with Philadelphia and Baltimore by canals and railways. The interest on the cost of water power and lot is all that will be required for many years the coal will not cost more than \$1 to \$1 25 at the mill sites, without any trouble on the part of the manufacturer; rich iron ore may be laid down still more cheaply at the works; and, taken together these sites offer remarkable advantages to practical manufacturers with small capital. For pamphlets, descriptive of the property, and further information, apply to Archibald McIntyre, Albany, to Archibald Robertson, Philadelphia, or to the undersigned, at No. 23 Chambers street, New York, where may be seen specimens of the coal and ore.

W. R. CASEY, Civil Engineer,

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings thereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 feet, with lathes, work benches, &c.

Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, furnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to **HENRY ANDREWS, 45 State st.,** or to **CURTIS, LEAVENS & CO., 106 State st., Boston,** or to **A. & G. RALSTON & Co., Philadelphia.**

CYRUS ALGER & CO., South Boston Iron Company.

PROPOSED CHARTER OF 1846.

We have re-printed from the Journal of Commerce of Wednesday the eighteenth of February, the draft of a bill which has been approved by the board of aldermen for amending the city charter. We have not re-printed the editorial commendation of the bill which accompanied its publication, inasmuch as we think the worthy editors of that valuable public journal have greatly erred in the commendatory notice, and we hope to be able to convince them of this in our review of the provisions of the bill in detail.

It was formerly the custom in legislative enactments to accompany the bill with a preamble reciting the mischiefs its provisions were intended to remedy—it was a good custom and should not have been discontinued.

Had that been done in this case, the bill would demonstrate an absurdity, for the mischief is in the departments, and not with the newly elected aldermen.

Abuses of an aggravated and alarming character have been committed, and the great inquiry is—by whom?

Here is the foundation to begin at. The departments of the city government have been wretchedly administered. Corruption and abuses of an aggravated character have existed in the departments to such an alarming extent that if a scrutiny was to be had and the abuses fully exposed, the citizens would raise *en masse* and demand their abolition.

Take up any particular act of the corporation that is complained of, and begin with its commencement in the common council, and follow its details to its final consummation through the departments, and it will be readily seen where the mischief attached, and in which department of the city government the fault lies, and what particular officer the blame attaches to.

Much is said about the inexperience of members of the common council, and this it is suggested in the bill, can be remedied by making the term of aldermen of three years duration in place of one year.

Experience is universally acknowledged to be the best schoolmaster, and we have this developed most satisfactorily in the records of the common council since the adoption of the amended charter in 1830, and before that change. Many of the members of the common council have been re-elected for years in succession, and there are now in that board gentlemen who have for several years been members of the common council. Contrasting these gentlemen with their associates of lesser experience, and thus obtain the sought for *desideratum*, if attainable by means of extended terms of office. We forbear any comparison which may be deemed personal, but state the case as a matter of general application. Our conclusion is that the experiment has been tried and found a failure.

The advocates of the bill in hand, are warm in their expressions of admiration of the general frame of our state fundamental law, and claim in this bill to copy after it, but section two repudiates the very doctrines they advocate, for by the constitution, members of the legislature cannot at the same time hold or fill any other civil office, but this section of the bill provides that all the powers given to the mayor, aldermen and commonalty shall continue to be vested in that body. Thus a member of the board of aldermen is by virtue of his office of alderman, judge of the court of cyer and terminer, judge of the court of general sessions, judge of the court of special sessions, judge of the county court, commissioner of excise, health commissioner, supervisor of the county, commissioner of highways, magistrate in his ward, and if made president of the board, acting mayor of the city. Now then where is the great regard for great principles contained in the constitution?

An alderman cannot discharge the duties of all these ex-officio offices, and besides all of them are incompatible with the office of a member of the common council possessing the legislative powers of the corporation.

The first section of the bill is a needless provision which will be readily seen when compared with section one of chapter 122 of the laws of 1830.

Section 2, is a dangerous and ruinous provision. Whatever powers are intended to be given to the common council, should be plainly and distinctly

stated, and all not intended to be given should be interdicted.

Section 3, provides for 18 aldermen. Since 1836, application was made to the legislature to increase the number from 16 to 17, for the reason that in 1836, the number of whig aldermen were 8, and the democratic aldermen 8, which made a tie vote, and two months time was consumed in organizing the board, during which time no public business could be transacted by the board.

Section 4, provides for a longer term of office. We have discussed that point in our prefatory remarks.

Section 5, increases the number of assistants, and inasmuch as the members are to be paid \$750 per year, by ordinance to be passed by themselves, the increased expenditures in this will be near \$30,000 per annum for assistants, and more than \$13,000 for the aldermen, besides gold pencil cases, stationery, maps, sets of volumes of natural history, etc., etc.

Section 7, is a substitute for the same section in chap. 122 of 1830, and is intended to defeat the restraints upon that necessary provision of that act, which was more dwelt upon as to its importance in the convention which framed it than any other.

The 8th section is unnecessary, as by the act of 1830 the common council can fix the session in any way they shall see fit to determine by a joint rule of the two boards, and the same remark will apply to section 9.

Section 10 does not reinforce the mayor's veto, but leaves it as it is, with one qualification growing out of periodical sessions of less frequency than now held, but that same provision is contained substantially in chapter 122 of the laws of 1830.

Section 11 is an absurdity. The state constitution provides for the election of the mayor annually, and an attempt to dictate to the state convention to assemble in 1846, as to extending the term to two years is improper.

If the members of the common council were all allowed to serve two years, it would be well, but electing only a part, does not lessen the frequency of charter elections.

Section 12 treats of executive power. The supreme court say, some of the powers of the corporation are in part executive, judiciary and legislative, and we add, others are administrative and others ministerial. The act should define the powers by express provision. The nomination of officers by the mayor to the board of aldermen is a good provision, but he should have power to suspend an officer for misconduct, and the board which consents to his appointment should have the power of prompt removal from office for good cause. These remarks are also applicable to section 13 and 14.

Section 15 provides for compensation to members of the common council. These officers should be paid compensation for each day's session in the day time, but it should be in lieu of all other pay, and they should hold but the one office. This last remark applies to section 16.

§ 17, is well enough, but it should provide for a record, which record should be approved by the mayor, and be open for inspection.

§ 18, is a deliberate wrong of untold and incalculable magnitude. Those who have adopted it, have been deceived as to its import.

The business of the corporation should be managed by departments suitably organized, and under proper and salutary restrictions, and each should be independent of the other. Most of the duties that pertain to departments are administrative, or ministerial. The heads of the departments should be elected by the people. This remark is applicable to the remaining sections of the bill, all of which are badly framed, and not calculated to meet the expectations of those who are desirous of reform and retrenchment in city expenditures.

This bill was not published until it was passed by the board of aldermen and was in three days after concurred in by the board of assistants, and hurried off to the legislature to be passed into a law, and then to be submitted to be people the second week in March. Why this great haste? The submission to the people should be made at a general election, and full publicity should be given to the bill.

The great majority of the citizens are in favor of restricting the powers of both the officers of the corporation and of the members of the common council.

The provisions of this bill will not accomplish that end.

In 1824 an act was passed entitled an act to alter the organization of the common council. See *session laws of 1824*. A similar act was passed in 1828. See *session laws of that year*. Both these acts were rejected by the people. In 1830, a convention was called to frame a bill for the legislature to pass into a law. This was accepted by the people and subsequently enacted by the legislature, and is now the law, and the difficulty is that the corporation officers, as well as the common council, disregard its provisions.

Chief justice Bronson, in an opinion recently given by him, touching the seventh section of the amended charter, said: "The language is imperative—the ayes and noes shall be called. When the particular mode in which the corporation is to act is thus specially declared by its charter, I think it can only be in the prescribed form. The contrary doctrine wants the sanction of legal authority, and is fraught with the most dangerous consequences.—It would place corporations above the laws, and there is reason to fear that they would soon become an intolerable nuisance."—*Examiner*.

INDEPENDENCE OF EUROPEAN COURTS.

The following anecdote we cut from the columns of the Albany Daily Advertiser.—It belongs to go along side of the assessment matters, showing a contrast in the Judicial proceedings of the courts of our state, compared with that of a kingly government.

"We have much pleasure in laying before our readers an interesting anecdote, which has been communicated to us by a gentleman recently from Berlin. Some time since an effort was made to get rid of a windmill, the close approximation of which to the royal palace rendered it in some degree a nuisance, and certainly an eye-sore. Overtures were accordingly made to the sturdy yeoman for the purchase of the obnoxious property; but whether it was that the man was possessed of a strong spirit of obstinacy, or was really deeply attached to his old family habitation, the result was that the offers, tho' tempting, were again and again refused. There are very generally some individuals attached to a court who are ready to suggest remedies, direct or indirect, for inconveniences or annoyances offered to royalty. Accordingly, upon a hint from some minion, a lawsuit was commenced against the obstinate miller for the recovery of certain sums alleged to be due for arrears of an impost on that portion of crown land which it was suggested was occupied by the mill in question. The sturdy holder of the "toll dish" was not altogether without friends or funds, and he prepared vigorously to take his stand in defence of his rights. The question came in due time before the courts of law, and the plaintiff having completely failed to establish any right on behalf of the crown, the miller obtained a verdict in his favor, with a declaration for payment of his costs in suit. This was certainly no small triumph, and merrily went round the unfurled sails for the old mill, and well pleased no doubt, was the owner with the sound, as they went whirling and whizzing under the influence of the gale, which certainly seemed to blow strongly in his favor. But he was not the first who has found that when drawn into a lawsuit, particularly with so formidable an opponent, a man is more likely to "gain a loss" than escape scot free. What with extra expenses, interrupting of business, and

rejoicings after the victory, the miller found himself pressed by considerable difficulties, and after in vain struggling a few months against the pressure, he at length formed a manly resolution, gained access to the monarch, and, after roughly apologizing for his having thwarted his majesty's wishes, frankly admitted that his wants alone had rendered him compliant, but that he was prepared to accept the sum originally offered for the property. The king, after conversing with the miller a few minutes, handed him a draught for a considerable amount, saying, "I think, my honest friend, you will find that sufficient to meet the emergency; if not, come and talk to me again on the subject. As to the mill, I assure you that I will have none of it. The sight of it now gives me more pleasure than it ever occasioned pain: for I see in it an object that assures me of a guaranty for the safety of my people, and a pledge for my own happiness by its demonstration of the existence of a power and a principle higher than the authority of the crown, and more valuable than all the privileges of royalty."—*London Paper.*

Ocean Steam Navigation.

We find the following communication in the Journal of Commerce, and we give it a place in the Journal, as containing information both useful and interesting.

I have read objections urged by you and one or two of your correspondents, in reference to the route selected by the government for the transportation of the United States foreign mail in American steam ships. The route from New York to Cowes, Bremen, and alternating with Havre, was fixed upon after extensive inquiries and investigations instituted by the post office department at Washington. Letters were addressed to American consuls, and commercial gentlemen of great intelligence and respectability, resident at Cowes, Bremen, Hamburg, and other continental ports, and replies were obtained which shed a flood of light on the subject, proving conclusively, so far as our mail service and commercial interests was concerned, that the Cowes station, on the isle of Wight, was better than any other. Those who have taken the liberty of objecting to the route in advance, have probably not read the correspondence of the government on this important subject.

After all, the matter is a very simple one. The government advertises for a mail contract by ocean steamers, from New York to Cowes and Bremen, and a responsible company of capitalists step forward and obtain the contract by being the lowest bidders.—Their taking the contract under bonds, is a proof of their confidence in the future profitability of the route. If they are willing to embark their capital in a line of steamers to run on the route designed, I cannot see any cause of complaint on the part of disinterested persons.

In running to Liverpool, they would have come in competition with the Great Western and Cunard lines of steamers, both of which, it is expected, will be strengthened by the multiplication of additional steamers.

Our trade with the continental ports is every year on the increase. A great revolution is in progress on the continent by the construction of railroads, intersecting every part of the populous and central portions of Europe.

Mr. A. D. Mann, for some time our intelligent consul at Bremen, says in his letter published in the Washington Union of the 3d Oct., 1845, that Cowes is the most favorable point for touching at, between New York and Bremen. He further remarks, that from "Cowes to London, I performed the journey in 3 hours. From Cowes to Havre the voyage has been made in 7 hours, and from the latter to Paris by railroad will only consume about 5 hours. It is therefore perfectly apparent, that a line of well conducted steamers may be made to answer the purpose of communicating with Great Britain, France, Germany, and indeed with all the continental powers and states of Europe, as effectually as could be desired."

"A continuous railway track will be completed between Bremen and Trieste before the expiration of two years. I ascertained before I left Germany, that, in order to expedite the overland mail from London to the East Indies and China, it was to be embarked at Trieste, instead of Marseilles."

In a second letter published at the same time, Mr. Mann remarks as follows, as to the enormous cost of letters transmitted by the English mail steamers and carried across England to residents on the continent.

"The postage on letters mailed at Boston, where the weight does not exceed half an ounce, *via* Liverpool per British steamers, amounts to 40 groats, equal to 43½ cents at the true par of exchange, when they reach this place. Newspapers, such as those published daily at Washington, by the same conveyance and route, are charged 56 groats each, equal to 61 cents!" This extravagant postage on American papers is so enormous, as to exclude them from the continent. Mr. Mann further observes, that "in less than 3 years from this time, such will be the improvements on the continent in the way of railroads, that the mail will be conveyed to Hanover in 2½ hours from Bremen; to Berlin in 14 hours; to Vienna in 36 hours; to Dresden in 14 hours; to Prague in 22 hours; to Munich in 30 hours; to Strasburg France, in 24 hours, and from thence to Basle, in Switzerland, in 4 hours; to Copenhagen in 36 hours; to Stockholm in 56 hours; to St. Petersburg in 68 hours, and from thence to Moscow in 30 hours."

Mr. Mann states that *Bremerhaven* is never obstructed by ice, and is open the year round. And I would observe, what I knew to be the fact, that the contract with the postmaster general only binds the steamers to go to *Bremerhaven*. The port of Bremen is a free port, and a republic on a small scale.

Good bituminous coal, as it is landed free of duty, can be had in abundance at the low rate of \$4 per ton.

Antwerp is not a free town; and to reach Hamburg subjects vessels to charges of va-

rious kinds in passing the Elbe, which is closed by ice in winter.

In opening a direct steam communication with France, Germany, etc., we invite more enlarged trade, intercourse, and commerce, with a vast country of from 65 to 70 millions of ingenious, industrious and civilized people.

We would by this means enlarge our markets for our agricultural products, and receive in exchange many valuable articles on cheaper terms than they could probably be purchased elsewhere.

Mr. McCroskey, our consul at Cowes, in his letter to the post master general, states that "the travel to and from the channel islands, amounted to 12,000 passengers last year going and returning. And to, and from Havre to 15,000 passengers!"

Taking all the facts I have adduced, backed by the best informed men on the subject, it would seem to leave not a doubt as to the wisdom of the route to Cowes and Bremen, selected by our excellent post master general.

FULTON.

New York, March 13th, 1846.

Value of Railways as a means of defence, and the importance of a uniformity of gauge.

We find the following article on this subject in the Railway Record, of December 17th. The views therein are so correct and so important, that we give them place in the Journal; and would say, to those who have it in view to vary materially the width of track, consider well the importance of uniformity of gauge before you deviate on any important line.

THE BATTLE OF THE GAUGES.

The following appears in the *Times*, from a correspondent who signs himself E.:

The facilities which the introduction of steam navigation gives to the invasion of this country is necessarily engaging the very general attention of us islanders; it must, therefore, be a matter of even greater interest both to civilians and soldiers to see how far the introduction of railways, or in other words the application of steam to land travelling, will be adequate to afford the means of repelling successfully invasion whenever it may threaten us.

It is clear that we are bound to develop this defensive power, which railways and the electric telegraph put us in possession of, to the utmost, so that we may both be and be known to be a very torpedo, to be touched at no point without such a shock being conveyed to the rash disturber of our peace as will deter him from making the attempt more than once. This is the true way to preserve peace and keep off intruders.

The evidence of Sir W. Gordon and Sir John Burgoyne, officers of high distinction and great experience, as given before the railway gauge commissioners, is therefore at the present moment most useful and interesting.

We learn from these officers—

1. That the railway companies have afforded the Horse Guards as much accommodation as if the railways were under the immediate control of that department of the public service.

2. That the railways are found to be the safest of all modes of conveyance for troops.

That the rapidity of communication afforded by railways is such that, in case of war, as much would be done with a small army as, without the aid of railways, could be done with a large one.

3. That travelling by railway for troops is cheaper than marching, and that in six hours by railway, as great a distance as by 10 marches of twelve miles a day would be effected.

4. That railways would afford the means of concentrating the whole force of the kingdom upon any one point before the enemy could land 20,000 men.

5. That one of the principal difficulties attending the conveyance of troops in large numbers by railways, would consist in collecting together carriages enough for the purpose.

6. That the most judicious mode of disposing the forces to resist invasion would now be by concentrating them at a central point or points in the interior, and bringing them by focal lines of railway to the point of attack.

7. That they believe the safety of the country depends on railways.

Such, we are told by these competent witnesses, is the aid which railways are calculated to afford to the expulsion of invaders and the defence of the soil—assistance, it seems, the most important in the most important of national objects.

But, in England, Sir W. Gordon and Sir J. Burgoyne go on to say (in reply to questions put to them), all the statements regarding uses of railways for the purposes of national defence must be qualified, for they apply only to continuous and unbroken lines of railway communication extending either, as they recommend, from the central point of reserve to or near the point of attack, or, as was the case in the last war, along the threatened line of attack; whereas in this country (and, in Europe, in this country alone), the legislature has permitted railways to be constructed of two different widths of gauge, so that the most important lines of military communication by railway throughout the country must be at many points interrupted and broken, since the engines and carriages of one gauge cannot run forward on to the other gauge, but must there be exchanged for engines and carriages of a different construction.

Government, it seems, instead of guiding private enterprise so far as to make the different lines undertaken by different companies capable of forming parts of one great system, have had so little foresight as to allow the germs of two systems to take root, which two systems it is physically impossible to unite into one, and the frequent changes or break of gauge (as they are technically termed) which the co-existence of these two systems entail, and the consequent necessity of the embarkation and re-embarkation (as it may be termed) of all the men, horses, stores, guns, ammunition, etc., at such points, we find materially impairs, and in many cases will completely "nullify" the military uses of a railway, especially in so small a country

as this, where the distance which the troops have to travel from the central point of reserve to the point of attack could never much exceed 100 miles, and often would be much less.

To satisfy ourselves that this must be the consequence of the impediment we are considering, that is, the existence of diversity of gauge, let us examine the effects of the break of gauge on the various points of advantage which railways are calculated to afford, and which are so well brought out in the evidence we have been considering.

In the first place, then, as to the rapidity of the communication, which is, of course, the characteristic of railways, and the consequent power which this rapidity of conveyance confers of concentrating your forces on any one point of the coast before an enemy can land in sufficient force to resist you.—The change of gauge will involve a precisely analogous operation to disembarkation of the troops (the very operation on the part of the enemy which you propose to defeat by the superior rapidity of your movements.) I do not of course, mean to say that to change the conveyance upon a railway is the same thing as landing in boats, but it is the same sort of thing; with some thousand men, accompanied by luggage, horses, and guns, many hours will be spent in doing it; at an inconvenient road station it is difficult to say how many.

To make this plain, the trains in such a case as the necessity of concentration of forces upon the point of attack from the central depot would have to be started from that central depot at certain intervals of time, say a quarter of an hour between each departure. If one train caught another on the journey, the two trains would go on in company, the engines mutually assisting each other, and so would arrive together at the point of attack. But if you come to a change of gauge, only one train at most (*i. e.* about 350 men) could disembark and embark at one time, all the rest of the chain of trains must wait till this train has cleared out of the station, for if two trains were to disembark at the same time, no station would hold them, the men would become mixed, and there would be utter confusion. As each train then cannot commence until after the preceding train has started, the original quarter of an hour interval between the trains would be increased to one or two hours, and the last train of the ten (which number of trains is necessary, according to Sir John Burgoyne, in order to convey 3,600 men) would thus be from 10 to 20 hours behind the first train conveying the first section of the 3,600 men.

It must be remembered, too, that in one respect, as regards delay, a change of gauge is even worse than a disembarkation by boats, for at a change of gauge, every man and article to be changed must pass through one door, as it were, one by one, that door being the point where one gauge ceases and the other commences, which is not the case with boats.

The adaptation of railways to enable us to concentrate forces with great rapidity thus, it

seems, actually ceases when a break of gauge is interposed.

Again, we are told, by Sir John Burgoyne that inasmuch as 150 carriages are required for the conveyance of even 3,600 troops, one great difficulty in calling into use railways of a larger scale at an emergency as military aids will consist in collecting, at a short notice, a sufficient number of carriages for the conveyance of forces, and he judiciously recommends that means be devised to make the ordinary railway vehicles available for the conveyance of troops, which indeed they already are.

Now, how enormously the chance of delay from this cause is increased by having two systems of railway, *i. e.* one of each gauge. You get together a sufficient force of carriages of one gauge, we will say at your central depot, but when you arrive at the point of change of gauge, you find that there are not carriages enough to take your men on; the message has been intercepted, or misdelivered, or the same exertions have not been made on each of the two systems, or each of the two systems have not the same reserve of vehicles at command, or the enemy have got possession of the terminal station of the second system. The result of any one of these casualties may easily be fatal to the expedition.

Again, how much greater a reserve of carriages and engines you could have at command if all the railways were at one gauge, and under one system instead of two, and how much a greater certainty of commanding this reserve quickly you would then possess.

Again, if there were only one system, you could, as Sir John Burgoyne suggests, retreat with your engines and carriages; the railways in your rear would be of use to you, because you would have engines and carriages upon them; they would be of no use to the advancing enemy, who would have no engines and carriages. Not so, however, if you have one railway system in the south and another in the north; in this case you cannot take your engines and carriages beyond the change of gauge—there you must destroy them, or the enemy, as would most likely be the case, would get hold of them.

Observe too, how completely at variance a break of gauge is with the disposition of the forces recommended by the officers whose evidence we refer to, namely—

By establishing a central depot and point of reserve with focal lines of railway to the coast.

For where is the likely place of attack? Why, the south coast.

And where must the central depot be?—Why, if central, it must be somewhere north of the latitude of Birmingham; if so, there is the Great Western (if that railway is to remain of a peculiar gauge) intercepting every focal line from the central depot to the most exposed portion of the English coast.

Again, if, as was the case in the last war, troops are stationed along the coast, as Sir Willoughby Gordon described it, from Kent to Devonshire, the brake of gauge at Southampton or Dorchester, or wherever it may be, cuts off the communication with each other,

and precludes the possibility of a rapid literal movement, if such should be necessary.

Therefore, dispose your forces how you may, the change of gauge mars your plans.

The evils of this change of gauge, which I have endeavored to set forth, are, be it remarked, fully admitted both by Sir Willoughby Gordon and Sir John Burgoyne.

They say, "that a brake of gauge would be attended with danger, if not disaster; that great inconvenience would result from the possible want of carriages at a point of change of gauge; great inconvenience from the delay it would occasion, and from the packing and unpacking of luggage and ammunition after they have been once stowed away; that the practical inconvenience would be similar to that of a ferry."

Now, sir, on this delay and this inconvenience, "similar to that of a ferry" (and what a world of meaning does not that convey to a soldier,) may, and very probably will, depend the success of our first effort to repel foreign invasion; whether or not this country shall be the seat of war for years, whether or not this country shall be submitted to lasting humiliation (it is no exaggeration to say) may depend on this.

I say then let every lover of his country and of peace, when parliament meets, insist that whatever may be done with new lines or old lines, competition or monopoly, broad or narrow gauge, one uniform gauge on existing and on future railways be in the first place determined upon.

Never mind which gauge; both, we are told by the officers we have been quoting, answer perfectly well, "they can see no difference between them" for military purposes, but let the railway system be uniform, and let railway communication be unbroken.

Tolls on the Monongahela Slack Water.

The board of directors have adopted a new list of tolls which took effect on Monday, the 16th instant. Not having last year's list by us, we are unable to state exactly what difference may exist, but a synopsis of the leading items of the new rates will be of interest. Freight is divided into four classes.

No. 1—Includes copper, drugs, furniture, feathers, furs and skins, glassware, leather, manufactured lead, mds., oils, paper, machinery, manufactured tobacco, wool, etc., on which the tolls through [55 miles and four locks,] is 40 cents per 1000 pounds. Way freight 11 cents per 1000 lbs. per lock.

No. 2—Iron and castings, blooms and metal, coffee, cheese, cotton, dried fruit, fish, seeds, groceries generally, ginseng, hemp, powder, naval stores, leaf tobacco, rags, marble, lard and lard oil, tallow, nails, etc., 30 cents per 1000 lbs. through. Way freight, 11 cents per 1000 lbs. per lock.

No. 3—Ashes, lead, plaster, grain, gsrman clay, etc., 20c. through. Way freight, 6c. per 1000 lbs. per lock.

Miscellaneous, comprises a variety of articles.—The following are some of the principal items:

	Through, Per lock,	
Flour, per bbl.	5 cts. 1 1/2 cts.	
Apples "	3 "	
Whiskey "	8 "	
Molasses "	14 "	
Salt, (nominal) "	7 "	
Window glass per box	2 1/2 "	
Empty bbls.	1 a 2 1/2 a 1	
Hay, (ton)	40 "	
Potatoes and turnips, per bushel	1 "	
Horses and horned cattle, each	25 "	
Hogs, sheep and calves, each	6 "	
Passengers	25 "	

On each 1000 bushels of coke, coal and sand descending, the charge is:

Pool No.	Distance.	Per mile.	Lockage.
4	16	0	Lock No. 4
3	15	3	3
2	14	4	2
1	10	1	1

No additional toll on the boats.
When flats or flat floats descend from the Youghiogheny more than five miles above the influence of slack water, the collector is to make a deduction of 50 per cent. The tolls on steamboats, keels, flats, and flat boats is \$1 50 through, or 50c. per lock.

The rules and regulations, we believe, are much the same as last year; but the penalty for obstructing a lock, or coming within, or lying by, and detaining within 200 yards of one, without permission of the keeper, has been increased from \$3 to \$50.—*Pittsburg Gazette.*

New York and Erie Railway.—The Pennsylvania senate on Monday passed through committee of the whole the bill from the house granting the right of way through Wayne and Pike counties.

A bill authorizing the Baltimore and Ohio railroad company to borrow money on the stock of said company, for the purpose of renewing the track between Baltimore city and Harpers Ferry, has passed the Maryland house of delegates.

Troy and Greenbush Railroad.

The following is the annual report of this company, and it shows a fair business for so short a road.

Report of the Troy and Greenbush Railroad Association, made to the Secretary of State, January 31st, 1846.

Hon. N. S. BENTON, sec'y. of state.

SIR: In compliance with a resolution of the assembly, passed February 2d, 1843, the Troy and Greenbush railroad association make an annual report as follows:—The Troy and Greenbush railroad extending from the city of Troy to Greenbush, opposite the city of Albany, is 6 miles long.

The cost of construction to January 1st, 1846, is \$233,371 39

The receipts of the company from June 13th, when the road was partially opened for travel, to December 31st, 1845, both days included, are as follows, viz:—

FROM PASSENGERS.		
June, (from 13th)	3,429 passengers	\$425 62 1-2
July,	15,811 "	1,968 37 1-2
August,	16,191 "	1,994 04 1-2
September,	18,434 "	2,271 26
October,	18,270 "	2,249 84
November,	17,215 "	2,124 11 1-2
December,	9,361 "	1,167 60

Total No. 98,711 total amt \$12,200 86
"Way" passengers included in "through" fare being the same.

FROM FREIGHT AS FOLLOWS.		
June,	\$37 98 1-2	
July,	218 80 1-2	
August,	290 83	
September,	545 35	
October,	577 40	
November,	617 51	
December,	1,359 44	
	3,647 32	

THE EXPENDITURES FOR THE SAME PERIOD ARE:
For repairing and running road, \$5,981 21
" dividend, 7,843 62

The number of locomotives is, 3
" " passenger cars, 2
" " freight cars (made 4 wheels each) is 19
" " machine shops, 1
" average " men per day in employ of Company, 16

" number of miles run by engine with passenger trains is, 13,636
" number of miles run by engine with freight trains is, 500

Rensselaer County, ss: Day O. Kellogg & Jonas C. Heartt, being duly sworn, depose and say that they are directors of the Troy and Greenbush railroad association, and that the above report is just and true, according to the best of their knowledge and belief.

DAY O. KELLOGG

JONAS C. HEARTT.

Sworn before me, this 31st day of January, 1846.

J. L. LANE, com. of deeds
for the city of Troy.

The Paris correspondent of the Boston Atlas says that:

"Railroad speculations have been checked by the giving way of an immense viaduct on the Rouen and Havre line, which was to have been opened in May. It was a colossal structure, 500 yards in length, formed upon 27 arches of 150 feet span, which sprang from pillars nearly 100 feet high—all built of brick work. Upwards of 400 men had been employed upon it since its contract in 1844, and it was nearly completed when it fell with a tremendous rumbling sound, early in the morning, without any assignable cause, and is now a vast pile of ruins. It has cost over half a million of dollars, and been built by Englishmen, under the direction of an English engineer. Suspicions are entertained of the solidity of other portions of the line, and government have sent officers to survey it."

Canal Navigation by Steam.—The Alexandria Gazette states that last week the steamboat S. R. Cole, man went up, from the river, the Alexandria canal to Georgetown, making the trip in excellent time, and causing very little or no abrasion to the banks of the canal.

Great Southern Railroad.—By the passage through both houses of the Mississippi legislature, of a bill for the construction of a railroad from Jackson eastward, to meet that portion of the Southern railroad which passes through Alabama, all legislation necessary for this great work to proceed to its consummation is completed. The Mississippi bill appropriates the two per cent. fund of Mississippi, which is about \$300,000, given by congress to this road. Of the same fund in Alabama, 112,000 have been loaned to complete the interval between Montgomery and West Point. There is also a bill now before congress, to grant the alternate sections of public land, for five miles on each side of the road.

It is said in some of the Boston papers that, Mr. Gilmore, the newly elected president of the Western railroad co., came to Boston 20 years ago as a common laborer, and was for some time porter to the store of Whitwell and Bond, and labored with his hand-cart with the same industry and fidelity that he has since manifested in other avocations. Since that time, he has been in business on his own account, and, it is said, has accumulated a handsome fortune. At this time it is understood, that he has the offer of five other situations, beside that which he has accepted, in either of which he might have a salary of five thousand dollars a year.

The Concord and Montreal railroad.—The St. Johnsbury Caledonian says of the section of this road in its vicinity: "In the towns from which we have heard on the proposed route of the Connecticut and Passumpsic rivers railroad, the subscribers are paying up their first assessment on their shares just as if they meant to have a railroad, and that, too, shortly. The prospect now is, that more funds will be raised in the country than was anticipated."

This is what we expect of the people in that region.

Railway Traffic Returns in the United Kingdom for Four Years to December 31, 1845.

We find in Herapath's Journal, of 10th January, a tabular statement, showing the number of miles of railroad in use, over which traffic was carried, at the end of each week—the average traffic per mile per week—and the total receipts per week, on all the railways in use in the kingdom, during the years 1842, 1843, 1844 and 1845; showing the total for each quarter of each year, and for each year separately. It would seem to have been prepared with great labor and care; and is an exceedingly interesting and valuable document; and is accompanied by some very appropriate remarks by Mr. J. T. Hackett, the compiler, who has very just views of the effects, influences and operations of railroads; and his remarks are so appropriate that we give them with the table entire, for the purpose of showing the results of liberal and untrammelled legislation, and of enabling our own law givers to learn wisdom from it, that their constituents, the people, may derive the full benefit which good railways are susceptible of affording.

Statistics of Railway Traffic Returns in the United Kingdom, for four years, ending 28th December, 1845. Prepared by Mr. J. T. Hackett, for "Herapath's Journal."

1845.	Total receipts.				Average traffic per mile per week.				Miles of railway over which traffic was carried in			
	1845.	1844.	1843.	1842.	1845.	1844.	1843.	1842.	1845.	1844.	1843.	1842.
January	4	99,113	78,069	70,419	58,878	55	49	46	51	1780	1586	1520
"	11	94,169	80,355	69,052	60,890	53	50	45	50	1780	1586	1520
"	18	97,219	80,492	72,206	64,673	54	50	47	51	1780	1586	1520
"	25	97,946	81,478	73,884	63,974	55	51	48	52	1780	1586	1520
February	1	97,371	83,246	75,779	69,315	54	52	49	54	1805	1592	1520
"	8	99,252	80,507	70,908	57,560	55	50	46	50	1805	1592	1520
"	15	94,118	82,144	68,931	63,539	52	51	45	50	1805	1612	1520
"	22	95,919	77,746	69,199	66,939	53	48	45	52	1805	1612	1520
March	1	97,630	79,891	73,048	68,702	54	49	48	50	1805	1612	1520
"	8	97,037	82,233	74,730	70,194	53	51	49	50	1805	1612	1520
"	15	100,261	80,081	76,282	73,857	55	49	50	53	1812	1612	1520
"	22	102,835	84,533	78,247	75,993	56	52	51	54	1812	1612	1520
"	29	110,012	92,152	79,838	78,874	60	57	51	56	1812	1612	1564
First quarter		1,282,882	1,062,925	952,523	871,888							
April	5	116,790	99,720	86,741	84,004	64	61	55	60	1812	1612	1564
"	12	116,287	102,651	89,540	81,875	64	63	57	58	1815	1612	1564
"	19	116,685	104,721	91,359	81,441	64	65	58	58	1815	1612	1564
"	26	120,115	103,162	98,330	84,392	66	64	62	60	1815	1612	1573
May	3	123,222	103,167	95,056	87,176	67	65	60	62	1815	1612	1573
"	10	128,995	101,990	93,311	89,707	71	61	59	64	1815	1654	1573
"	17	149,794	102,816	91,226	89,502	82	62	58	66	1815	1654	1573
"	24	130,631	110,982	89,676	97,666	72	67	57	71	1815	1654	1573
"	31	127,360	120,926	99,234	80,332	70	71	63	63	1815	1686	1573
June	7	129,368	115,946	99,111	91,150	71	68	66	63	1815	1686	1573
"	14	140,290	114,329	102,368	92,765	77	67	65	64	1825	1686	1573
"	21	142,493	118,477	103,064	81,773	78	70	66	63	1825	1686	1573
"	28	137,600	117,726	103,079	92,427	70	69	65	63	1834	1686	1586
Second quarter		1,679,630	1,418,613	1,242,095	1,134,110							
July	5	139,936	118,343	107,455	84,217	76	70	67	63	1834	1716	1586
"	12	143,912	124,388	112,145	103,542	76	69	70	71	1890	1794	1586
"	19	153,734	130,307	112,404	100,081	79	72	71	70	1935	1794	1586
"	26	158,209	140,054	110,864	101,708	80	78	70	71	1935	1794	1586
August	9	158,335	138,550	112,559	109,440	81	77	71	76	1954	1794	1586
"	16	162,033	141,559	116,644	103,001	80	79	73	72	1969	1794	1586
"	23	152,284	132,620	112,317	94,131	79	74	70	68	1969	1794	1586
"	30	154,886	134,596	110,935	90,690	76	75	70	66	2033	1794	1586
September	6	149,041	136,454	110,385	96,247	73	75	69	74	2033	1770	1586
"	13	156,028	133,936	108,393	95,351	76	75	68	66	2033	1770	1586
"	20	153,088	128,158	111,832	103,403	75	72	70	69	2033	1770	1586
"	27	152,679	127,665	109,417	95,528	75	72	69	63	2033	1770	1586
"	27	148,640	130,676	109,445	96,778	73	73	69	65	2033	1770	1586
Third quarter		1,982,805	1,714,405	1,444,795	1,274,017							
October	4	144,876	127,864	106,310	96,179	71	72	67	64	2033	1780	1586
"	11	145,251	127,635	107,892	94,740	71	71	68	63	2038	1780	1586
"	18	148,109	118,033	103,642	90,379	72	66	65	60	2038	1780	1586
"	25	143,130	113,477	98,159	84,317	70	63	62	55	2038	1780	1586
November	1	142,546	108,647	93,603	86,776	70	61	59	56	2038	1780	1586
"	8	131,623	100,808	86,649	77,861	64	56	54	51	2038	1780	1586
"	15	124,562	98,612	84,340	76,827	61	55	53	51	2038	1780	1586
"	22	119,834	96,730	80,834	73,058	54	54	51	48	2038	1780	1586
"	29	122,318	96,823	76,807	76,028	60	54	48	47	2038	1780	1586
December	6	117,140	93,894	81,473	74,455	57	53	51	48	2040	1780	1586
"	13	116,623	95,196	84,677	76,783	57	53	53	50	2043	1780	1586
"	20	123,657	107,544	102,310	87,188	60	60	64	57	2043	1780	1586
"	27	124,238	103,776	81,346	70,919	60	58	51	47	2043	1780	1586
Fourth quarter		1,703,907	1,389,039	1,188,249	1,061,766							
Total		6,649,224	5,584,982	4,827,655	4,341,781							

Nothing can more decidedly demonstrate the successful operation of the railway system, as far as it has yet been carried out, than the facts stated in the above table. They show that the tendency of railway traffic is to increase in a still greater proportion as the facilities of railway communication are extended.

Few are prepared to say at what point the railway traffic of the united kingdom will cease to increase, or to how many millions per annum the revenue derived therefrom will ultimately reach. Judging from the facts before us, it would seem that the annual amount of railway traffic would go on for many years increasing in amount every year.

The increase during the past three years has been very considerable; in 1843 the traffic increased 11.2 per cent.; in 1844, 15.7 per cent.; and in 1845, 19.1 per cent. over each preceding year; while the outlay of capital during the same period was, in 1843, 10 per cent.; in 1844, 10.2 per cent.; and in 1845, 12.0 per cent.; so that in those years the increase was on the traffic as much as 53.1 per cent., while on the capital it was but 36.6 per cent. It may, therefore, be safely presumed, that, as long as the traffic returns increase more rapidly in proportion than the outlay of capital expended in constructing the lines opened, it is most probable that the best of the traffic is yet to come; and, as a general rule, as long as the railway system continues to be judiciously extended, so long will railway shareholders continue to receive handsome dividends on the capital invested.

It also appears that up to July, 1842, capital to the amount of 52,380,000. had been expended on railways, and that the traffic returns were in that year, 4,341,781; and that capital to the extent of 71,646,105. was expended up to July, 1845, while the traffic in this year amounted to 6,649,000., showing that the further outlay of 19,316,000. during the three years was attended with an increase in the traffic returns of 2,307,220.—being 11.94 per cent. on the extra sum expended.

During the same period, that is, between 1842 and 1845, 520 miles in length of new railways were opened for traffic, and we find that at the former period the earnings were 2,556. per mile per annum; and at the latter period £3,255 per mile per annum; being an increase of 14 per cent. In both cases the result is very favorable. Here we have the result and the best reason that can possibly be adduced in favor of the safety of railway investments, and the judicious extension of the railway system to the utmost bounds required to facilitate trade and business in the united kingdom.

In both cases the result must be highly satisfactory to railway shareholders, together with the fact of the receipts in 1842 being capable of admitting a dividend on the total capital then expended of 4.97 per cent.: and the receipts in 1845 equally capable of producing a dividend of 6 per cent. on the total amount of capital expended.

Relative Value of Fuel in Evaporating Water.

We find the following statement in the National Intelligencer, in relation to fuel and deem it well worthy of a place in the Journal.

Should nothing more satisfactory present itself in reply to your correspondent "Oregon," relative to the substitution of oil for coal, wood, etc., for fuel in generation for steam, allow me to state the following facts, showing the relative amount of heat the following materials are capable of exciting, as applied to water.

Combustibles	Lbs. of water which a pound can raise from 32° to 212°.	Lbs. of water evaporated by one pound.
Common wood,	25.00 to 26.00	4.50 to 5.00
Dry wood,	35.00	6.36
Alcohol,	52.00	9.56
Bituminous coal,	60.00 to 65.00	10.00 to 12.00
Coke,	65.00	11.80
Anthracite,	65.00 to 66.00	12.00
Charcoal,	73.00	13.27
Coal gas,	76.00	13.81
Oil and tallow,	78.00	14.18

Your correspondent can easily perceive, at a glance, that coal must raise in price, or oil lower, previous to its preference on the score of economy, and an apparatus to consume even oil for steam generation will be

attended with much the same difficulties the ordinary furnaces are for complete combustion, although oil is very convenient in the laboratory for small and delicate experiments.

your humble servant,
C. J.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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AMERICAN RAILROAD JOURNAL.

PUBLISHED BY D. K. MINOR, 23 Chambers street, N.Y.

Saturday, March 21, 1846.

We learn from the Middletown Constitution, that an enthusiastic railroad meeting was held in that city, on Wednesday of last week, to adopt further measures in relation to the great railroad from New York to Boston.

Massachusetts Railroads in 1845. Tabular Statements etc.

In acknowledging the favor of "Mercator," we desire to say that such favors are very acceptable: and we trust that others, in other sections of the country, will furnish similar statements; as they serve this useful purpose among many in showing the astonishing difference in the expense of working and repairing railroads.

It is not surprising that there should be a material difference in the cost of working different roads, as the circumstances under which they are worked differ so widely; yet it is surprising that there should be so great a difference as is shown in this table.—Varying from 41, 46 and 47 cents up to 102—110 and 147 cents per mile run during the year 1845! How is this? why this wide difference? Will some one familiar with the working of these roads furnish us with an explanation? We have but one object in these inquiries, and that is to make the Railroad Journal instrumental in promoting economy in the working, as well as in the construction of railroads.

We have, for some time had it in view, to make out a list of questions, or a blank form, to be sent to each company, with the view and hope of ascertaining as far as possible, the cost of the various items of expense of repairing and working the railroads in the different sections of the union. If successful in obtaining full replies, we shall be able to give our readers information on this subject both useful and interesting. "Mercator" will please accept our thanks.

Boston, March 2d, 1846.

Enclosed you will find a table showing the length, cost, etc., etc., of the railroads in the commonwealth, carefully compiled from the annual reports to the legislature, its insertion in the columns of your excellent Journal, will doubtless gratify its numerous patrons, and oblige.

yours truly,
MERCATOR.

Massachusetts Railroads. (Compiled from Annual Reports to the Legislature.)

NAMES.	Length in miles.	Cost.	Passenger receipts in 1845.	Merchandise and other receipts in 1845.	Total receipts in 1845.	Expenses.	Net income.	Number of miles run by passenger trains in 1845.	Number of miles run by merchant and other trains in 1845.	Total No. of miles run in 1845.	Total receipts per mile run in 1845.	Expense per mile run in 1845.	Net income per mile run in 1845.
Worcester.....	44	\$2,900,000	\$241,210	\$246,257	\$487,467	\$249,729	\$237,737	164,958	88,748	253,706	\$1.92	\$0.99	\$0.93
Western.....	156	1,999,556	366,753	446,727	813,480	370,621	442,859	292,478	327,723	520,201	\$1.53	\$0.69	\$0.84
Norwich & Worcester.....	68	2,170,492	116,202	88,106	204,308	85,765	118,543	134,964	38,266	173,230	\$1.18	\$0.49	\$0.69
Connecticut river.....	38	511,473	10,102	3,419	13,521	5,520	8,001	11,962	3,306	15,268	\$0.89	\$0.36	\$0.53
Berkshire.....	21	250,000	232,677	117,932	350,609	152,802	197,827	117,004	16,149	133,153	\$2.00	\$0.87	\$1.13
Providence.....	42	1,964,677	37,856	4,056	41,912	2,906	4,905	2,380	1,852	4,232	\$1.84	\$0.65	\$1.19
Stoughton.....	7	250,000	37,856	18,947	56,803	15,647	41,156	19,184	8,804	27,988	\$2.03	\$1.47	\$0.56
Taunton.....	11	483,623	52,659	25,552	78,211	23,384	48,827	13,880	13,160	27,040	\$1.61	\$0.61	\$1.02
New Bedford.....	21	317,805	13,279	2,518	15,797	8,206	7,591	12,340	5,460	17,800	\$0.89	\$0.46	\$0.43
Fall river.....	17	833,536	297,440	3,828	301,268	116,840	233,309	169,427	49,156	218,583	\$1.60	\$0.53	\$1.07
Old Colony.....	38	2,471,561	143,645	99,981	243,626	110,663	132,963	190,719	77,393	268,112	\$0.90	\$0.41	\$0.49
Eastern.....	55	1,887,329	144,645	179,116	323,761	172,042	151,719	112,793	62,744	174,537	\$1.01	\$0.52	\$0.49
Boston and Maine.....	70	1,932,898	176,952	179,116	356,068	179,042	177,026	112,793	62,744	174,537	\$2.61	\$1.11	\$1.50
Lowell.....	26	500,000	53,007	59,674	112,681	48,010	64,671	28,560	14,505	43,065	\$1.81	\$1.10	\$0.71
Nashua.....	14	500,000	3,734	23,080	26,814	16,277	10,537	2,708	12,032	14,740	\$1.81	\$0.47	\$0.71
Charlestown Branch.....	6	327,389	3,734	103,179	106,913	78,334	125,562	110,229	57,567	167,796	\$1.82	\$0.47	\$0.75
Fitchburg.....	49	1,477,477	100,817	103,179	203,996	78,334	125,562	110,229	57,567	167,796	\$1.82	\$0.47	\$0.75
	683	\$26,335,934	\$1,853,963	\$1,461,255	\$3,315,218	\$1,495,295	\$1,820,923	1,330,436	835,054	2,165,490	\$1.56	\$0.70	\$0.86

* For eleven months, ending Nov. 29th, 1845.

† Opened to Northampton, December 13th, 1845.

‡ Let to Housatonic railroad company.

§ Opened April 7th, 1845.

|| Opened November 10th, 1845.

¶ Opened to Sherly, Dec. 30th, 1844. Through-out, March 5, 1845.

The Housatonic railroad company have declared a dividend of four dollars per share on the preferred capital stock full paid, and a proportionate dividend on that partially paid, payable on the 10th of April. The amount of business now done upon the road (to say nothing of the probable increase) renders it certain, that the stock will be a valuable investment.

OFFICE OF THE NEW YORK AND ERIE RAILROAD CO., No. 50 Wall street.—

NEW YORK, March 19th, 1846.—Notice is hereby given, that proposals will be received until the 10th day of April next, for the Grading, Masonry and Bridging required to complete the Newburg Branch of the New York and Erie Railroad, extending from Chester depot in Orange county, to the village of Newburgh, a distance of about 18 miles.

The maps and profiles, estimates and specifications, are in the office of the company, in the village of Newburgh, where all necessary information will be given, either by the subscriber or by Messrs. SILAS SEYMOUR and L. J. STANDIFF, Civil Engineers.

The work will be divided into sections, averaging a mile in length, and proposals will be received either at Newburgh or in the city of New York, for grading the whole or any part.

By order of the President and Directors.

T. S. BROWN, Chief Engineer.

12 31

Reading railroad.—Comparative statement of the business on the Philadelphia and Reading railway during the month of February, for three years, viz:—

	1844	1845	1846
Travel.....	\$4,690.82	\$5,275.93	\$6,047.32
Freight on goods.....	4,708.27	4,979.68	9,093.70
Do. coal.....	18,469.15	21,456.93	49,101.71
Miscellaneous receipts.....	2.94
Transp. U. S. mail.....	500.00	783.38	783.33

\$28,381.18 \$32,495.87 \$65,026.26
Coal transp'd, tons. 19,254.00 22,715.16 45,899.06
Estimated tonnage for the month of Feb. '46. 40,000.00

Excess..... 5,899.06

The Battle of the Gauges.

On examining our files, after having promised to give in the next number an account of the experiment on this subject, we ascertained that some of the numbers had not come to hand, therefore we have delayed for some weeks to give what we are sure will be read with interest by all who are in any way connected with railways.

An examination of gentlemen interested in, or connected with the different gauges was had before a committee of parliament, but without any decisive result, and it was then proposed to experiment on both gauges—which has been done, with the following results, on the "Great Western," the two first days. We shall continue the subject until we give such parts of the reports as will enable the readers of the journal to understand what has been accomplished by each of the contending parties, whether they arrive at satisfactory conclusions as to the merits of the question or not.

There are two accounts of the the two first days work in the Railway Record of Dec. 24th, one from the London Morning Herald, in which the time of performing each mile is set forth, and the other from the Railway Standard, which we give entire, together with the time table of the first day's experiment, from the Herald, that the time of running each particular mile may be seen. We shall give the experiments on the narrow gauge next week.

The starting of the train was agreed to be made from the first mile post, where it halted for about a minute after being drawn from the station. At 61 minutes past 10 o'clock it started on its experimental trip. The following is the working of the engine, from the starting point. It is not an official return but the result of our own observation. We should premise that upon reaching the West London crossing the signals were again the Great Western train, which rendered it necessary for the guards to put on the breaks. This occasioned a loss of about half a minute.

The train started from the 1st mile post at	Time in which each mile was performed.		
	h.	m.	s.
2...	0	0	0
3...	10	11	30
4...	10	13	0
5...	10	14	20
6...	10	15	30
7...	10	16	45
8...	10	17	55
9...	10	19	5
10...	10	20	18
11...	10	21	26
12...	10	22	35
13...	10	23	40
14...	10	24	48
15...	10	25	54
16...	0	0	0
17...	10	28	0
18...	10	29	14
19...	10	30	21
20...	10	31	29
21...	10	32	38
22...	10	33	47
23...	10	34	56
24...	10	36	8
25...	10	37	18
26...	10	38	29
27...	10	39	40
28...	10	40	50
29...	10	42	1
30...	10	43	10
31...	10	44	22
32...	10	45	38
33...	10	46	41
34...	10	47	58
35...	0	0	0
36...	10	50	18
37...	10	51	30
38...	10	52	40
39...	20	53	52
40...	10	55	2
41...	10	56	13
42...	10	57	25
43...	10	58	37
44...	10	59	48
45...	11	1	4
46...	11	2	16
47...	11	3	34
48...	11	4	50
49...	11	6	15
50...	11	7	35
51...	11	8	54
52...	11	10	12
Station	11	12	0

65 15

It is here seen that the broad gauge engine did the 52 miles in 1 hour 5 minutes 15 seconds; and that this experiment shows it to be equal to 80 tons at somewhat more than 48 miles per hour.

Upon arriving at Didcot, several of the party left the train, and the secretary of the company had a corresponding weight placed in the carriages, in order to keep up the fixed tonnage.

EXPERIMENT WITH THE RETURN TRAIN.

At 19h. 8m. 20s. the experimental train left the Didcot station.	Time in which each mile was performed.		
	h.	m.	s.
53...	12	8	20
52...	12	11	22
51...	12	12	55
50...	12	14	10
49...	12	15	20
48...	12	15	27
47...	12	17	32
46...	12	18	39
45...	12	19	45
44...	12	20	54
43...	12	22	0
42...	12	23	5
41...	12	24	9
40...	12	25	14
39...	12	26	18
38...	12	27	21
37...	12	28	23
36...	12	29	26
35...	0	0	0
34...	12	31	34
33...	12	32	40
23...	12	33	46

31...	12	34	50	1	4
30...	12	36	0	1	10
29...	12	37	8	1	5
28...	12	38	11	1	6
27...	12	39	17	1	6
26...	12	40	20	1	3
25...	12	41	25	1	5
24...	12	42	22	1	4
23...	12	43	34	1	5
22...	12	44	40	1	6
21...	12	45	44	1	4
20...	12	46	48	1	4
19...	12	47	54	1	6
18...	12	47	58	1	4
17...	12	50	6	1	8
16...	12	51	14	1	8
15...	0	0	0	0	0
14...	12	53	35	2	21
13...	12	54	44	1	9
12...	12	55	54	1	10
11...	12	57	3	1	9
10...	12	58	13	1	10
9...	12	59	23	1	10
8...	1	0	33	1	10
7...	1	1	43	1	10
6...	1	2	43	1	6
5...	1	3	56	1	7
4...	0	0	0	0	0
3...	1	6	7	2	11
2...	1	7	16	1	9
1...	1	9	0	1	44

60 40

At the second mile from the Paddington station the breaks were put on, and the train reached the first mile post at 1 h. 9 m., completing the 52 miles in one hour and forty seconds, or at the rate of upwards of 51 miles per hour.

It will be seen that the maximum speed in the down trip was a mile in 65 seconds—viz: from the 12th to the 13th mile post, or about 55 miles per hour. On the up trip the maximum speed was a mile in one minute two seconds (viz., from the 38th to the 37th mile), or upwards of 58 miles per hour, and on a reference to the time table, if we may so term our figures, it will be seen that the 13 miles between the 44th and 31st mile posts were performed in 14 minutes and 56 seconds. Some little time was lost in this up trip, in consequence of the water having been very short in the down journey. This insufficiency compelled them to take in a large quantity of cold water, and there was not time, before the return trip, to start with proper steam and fire.

The Broad Gauge.—Experiments under the Commission.

We have the pleasure of laying before our readers the official report of the experiments made on Tuesday and Wednesday last, for testing, under the inspection of the gauge commissioners, the tractive power of the broad gauge locomotive. It will be recollected, upon the conclusion of the evidence before the commissioners, some objection was taken by the broad gauge party to the correctness of the evidence given by Mr. Bidder, respecting the tractive capacity of certain of the existing narrow gauge engines, and that a request was made to the commissioners to admit the conflicting testimony given on the one hand by Mr. Gooch, the superintendent of the locomotive department of the Great Western, and by Mr. Bidder, the representative of the narrow gauge party on the other hand, to be settled by a series of experiments on the respective lines. The commissioners gave their consent, and on Tuesday last the Great Western railway company made their first experiments upon the portion of their line between Paddington and Didcot. The respective weights of the trains experimented upon will be found in the very ample, and, at the same time, simple tabular statement given below.

The experiments of Tuesday were carried out under the inspection of Sir Frederick Smith and Professor Barlow, two of the commissioners, and Mr. Brunel, Mr. Gooch, Mr.

Bidder and Mr. Berkley, from the establishment of Robert Stephenson. The four last gentlemen rode upon the engine throughout the whole of the experiments. They were accompanied in their first journey to and from Didcot, by Mr. P. W. Barlow, the resident engineer of the South-Eastern railway. In the train we observed Sir John Burgoyne, General Pasley, Captain O'Brien, of the board of trade, Mr. Gower, one of the directors of the Great Western railway company, Mr. Watson, the secretary of the gauge commission, Mr. C. A. Saunders, secretary of the Great Western railway company, Mr. Wyndham Harding, etc.

The second day's experiments were made under the inspection of the three commissioners, and upon the return trip, Professor Airey took his station upon the engine for the purpose of personally observing its working.

The experiments upon the narrow gauge line take place on Tuesday next. The line chosen is that of the Manchester and Birmingham.

No.	Description of Carriage.	Weight of Carriage Empty.		Weight of Passengers 140 lbs. each.		Gross Weight of Carriage and Load.		No. of Passengers carried.		No. of Passengers the Carriage will hold.	
		Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.	Tons.	Cwt.
1	2d class	7	8	2	12	9	20	41	39	72	32
2	1st class	7	14	0	0	7	14	39	37	32	32
3	Ditto	7	15	2	7	9	22	37	36	32	32
4	Ditto	7	18	1	0	8	18	36	33	32	32
5	Ditto	7	16	0	0	7	16	33	32	32	32
6	Ditto	7	12	3	0	10	12	34	32	32	32
7	2d class	7	7	2	13	9	20	41	39	72	32
8	Ditto	7	9	2	12	9	20	41	39	72	32
		61	2	1	18	3	1	288	38	376	326
		Add 28 passengers at 140 lbs. each.									
		T. 81 13 0									

It will be seen from the above table that the loading in the carriages was 50 passengers less than they were able to carry. The weight of carriage per passenger was 3.7 cwt.; the weight, if full, would have been 3.2, made up of 216 second class, and 160 first class passengers. On the first trip down, the time occupied from the 1st to the 53d mile post, or 52 miles, was 65.5 minutes, or an average speed of 47.5 miles per hour. The time between the 4th mile and the 50th, or 48 miles, was performed in 54.5 minutes, or an average speed of 52.8 miles per hour. The maximum speed upon a rising gradient of 4 feet per mile was 52 miles per hour; and on a gradient falling 4 feet per mile, it was 55 miles per hour. The

average pressure of steam on the boiler was 75.4 lbs. on the inch. The quantity of water evaporated was 234 cube feet, or at the rate of 214 cube feet per hour.

WEATHER.—There was a stiff wind from the south-west, and, at starting, the West London signal was rung, which checked the speed a little. After reaching the 40th mile, the engine had consumed nearly all her water, and it was necessary to allow the fire to get low, and to slacken the speed so as to reduce the consumption of water. The rails were in very good condition, being dry and clean. There was no slipping.

On the first experiment up, the same load was worked, but, from the engine arriving at Didcot with no water in her tank, and very little in her boiler, also with a very low fire, there was not time before delivering again to get the engine into good condition, and she consequently started with a black fire, and cold water in her tender, and not much steam. She was, therefore, unable to recover it during the whole of the up journey, and the average pressure of steam was only 63.1 lbs. The time in running 52 miles was 62.5 minutes, or an average of 50 miles per hour. And from the 50th to the 4th mile, or 46 miles, the time was 50 minutes, or an average speed of 55.2 miles per hour. The maximum speed in a falling gradient of 4 feet per mile was 59 miles per hour, and in a rising gradient of 4 feet per mile it was 51.7 miles per hour. The consumption of water in the up-trip was 200 cube feet, or at the rate of 192 cube feet per hour.

The second experiment from London to Didcot was with 71 tons 12 cwt. 2 qrs., and there was a very heavy high wind from the south-west, the speed being increased a good deal after the first trip. The carriages were the same as before, with the exception of No. 1, which was taken off.

Making the gross load, - - -	Tons. cwt. qrs.
Number of passengers carried, -	71 12 2
allowing 140 lbs. for each, -	0 285 0
Number of passengers the carriages were made to carry, -	0 304 0

Room to spare for - - 19 passengers. The time on the trip for the 52 miles was 65.2 minutes, or an average speed of 47.8 miles per hour; and from the 4th to the 50th mile-post, or 46 miles, the time was 55 minutes, or an average speed of 52.3 miles per hour. The maximum speed of a rising gradient of 4 feet per mile was 51.7 miles per hour; and down 4 feet per mile, it was 53.7 miles per hour. The quantity of water evaporated was 218 cube feet, or at the rate of 200 cube feet per hour. Average pressure, 77.2 lbs.

On the return journey, with the same load, the total time for the 52 miles was 57 minutes, or an average speed of 54.6 miles per hour; and between the 50th and 4th mile-posts, or 46 miles, the time was 48 minutes, or 57.5 miles per hour. The maximum speed down 4 feet per mile was 62 miles, and up 4 feet per mile 58 miles per hour. The quantity of water evaporated was 190 cube feet, or at the rate of 200 cube feet per hour. The average pressure of steam was 71.1 lbs. in the inch. Taking the general result of the day's work, it will be as follows:—

Average load—81 tons 13 cwt. + 71 tons 12 cwt. 2 qrs. × 153 tons 5 cwt. 2 qrs. + 2 = 76 tons 12 cwt. 3 qrs.
Coke consumed—67 cwt. or 7,504 lbs.—35.3 lbs. per mile. Taking the distance at 53 miles which the load was moved, this is equal to 46 lbs. per ton per mile.

Water—5,201 gals. while running
400 " while at rest

5,601
10

Gals. 56,010 = 7.4 lbs. of water to 1 lb. of coke. Total expenditure, per hour, while in motion, 201.5 cube feet.

COST.

67 cwt. of coke, at 20s. per ton, - -	£3 7 0
212 miles repair at 2-17d. taking an	
average of 4 years' repairs, - -	1 18 4
212 miles general charges at 1-94d. =	1 14 3
Engineer and fireman's wages, - -	0 13 7
	£7 13 2

Or 8-6d. per mile, or 10d. per ton, per mil., at an average speed of 49.97 miles per hour. The cost was given in evidence at 15d. per mile.

N. B. In these repairs are charged all the ordinary repairs, and in addition a new crank shaft, with a new set of tubes, expansion gear, etc.

REMARKS ON THE SECOND DAY'S EXPERIMENT.

No.	Description of carriage.	Weight of carriage empty.	Weight of passengers averaging 140 lbs.		Gross weight of carriage and load.		No. of passengers carried.	No. of passengers the carriage will hold.
			Tons.	Cwt.	Tons.	Cwt.		
1	1st class.	7	14	6	10	3	39	32
2	Do.	7	15	2	10	2	37	32
3	Do.	7	18	1	10	3	36	32
4	Do.	7	16	0	10	6	34	32
5	2d class.	7	7	7	10	0	24	72
6	Do.	7	9	3	10	1	41	72
		46	1	0	59	17	199	272
		Add 26 passengers at 140 lbs. each			1	3	26	225
					61	0	2	47

The above table will show that the loading in the carriages was 47 less than they were able to carry. The weight of carriage per passenger carried was 4.0 cwt., and the weight, if full, would have been 3.3 cwt. per passenger, consisting of 142 second class, 128 first class passengers.

The time occupied on the down trip, from the 1st to the 53d mile posts, was 59.5 minutes; and the speed was 52.4 miles per hour. From the 4th mile to the 50th mile, or 46 miles, the time was 49 minutes, or 56.3 miles. The highest speed on a gradient rising 4 feet per mile, was 59 miles per hour; on a gradient falling 4 feet per mile, 60 miles per hour. The average pressure of steam was 74 lbs. on the inch. The water consumed was 215 cube feet or 218 cube feet per hour.

The weather was mild, but dull; and on reaching the 35th mile post, a drizzling rain

came on, which made the rails in such a greasy state, that the engine would not bear the steam on account of slipping. This continued until the 46th mile. A large addition in the consumption of both water and coke was caused by this, and some little loss of time—about two minutes.

Third experiment.—The same load was taken, and the distance of 52 miles was performed in 58 minutes, or an average speed of 53.8 miles per hour. The time occupied between the 50th mile and the 4th mile, a distance of 46 miles, 49.5 minutes, or an average speed of 55.7 miles per hour. The highest speed attained up a gradient of 4 feet per mile was 57 miles per hour, and down, 4 feet per mile, or 61 miles per hour. The average pressure of steam was 70.4 lbs. on the inch. The quantity of water consumed was 193 cube feet, or at the rate of 199 cube feet per hour. Taking the general result of the day's work, it will be as follows:—

Load—61 tons 0 cwt. 2 qrs.

Coke consumed—31 cwt. or 3,472 lbs., = 32.7 lbs. per mile, or 53 lbs. per ton, per mile.

WATER.

2534 gallons while in motion
200 — while in station

2734 gallons total consumption

10
2734 lbs. + 3472 = 7.8 lbs. of water to 1 lb. of coke.

Average evaporation per hour while in motion—205 cube feet.

COST.

31 cwt. of coke, at 20s. per ton, - -	£1 11 0
Repairs, 106 miles, at 2-17d., - - -	0 19 2
General charges, 106 miles at 1-94, -	0 17 1
Engineer's and fireman's wages, - -	0 6 10
	£3 14 1

or 8-38d. per mile, and 13d. per ton per mile at an average speed of 53.1 miles per hour.

The Ixion engine, the one used on the occasion, was first started on the Great Western railway in September, 1841, and has been running regularly ever since, with the exception of two accidents a year ago, when she was under repairs for new tubes, and having the stroke altered from 18 to 20 inches. The drawings for this engine, as well as all others now at work on the Great Western railway, were put into the hands of the engine-builders six and a half years ago, when the present high speeds were not required. She must not therefore, be considered as showing the exact result the broad gauge is equal to. That, on the contrary, it is only half the power of broad gauge engines that are now being built.

The dimensions of the Ixion are—

Area of fire-box, - - -	97 square feet.
Area of tubes, - - -	602 " "
Diameter of cylinder, - -	50 3/4 inches.
Length of stroke, - - -	20 "
Diameter of dummy-wheel, -	7 feet.
Weight of engine, - - -	22 tons.
Average weight of tender, -	11 "

New York Legislature.—**THURSDAY, March 12.**—In the house, a petition was presented from the New York and Erie railway company, for permission to run their road into Pennsylvania.

FRIDAY, March 13.—In the senate, the N. Y. and New Haven railroad bill was made the special order for Monday.

In the house, the Utica and Schenectady railroad reduction of fare bill, was debated at some length in committee by several members.

The Utica railway bill was again taken up and debated, but no question taken.

Great Western C. W. Railroad Company.

We take from the Toronto Globe of 10th Feb., a statement of the proceedings of the stockholders of this road at their annual meeting. We give the following extracts from them, with the view of showing the present position and prospects of this company—together with the circular of the eleven gentlemen in London who took the 55,000 shares.

From these statements, it appears to us that the "Great Western C. W. railway" is placed on a firm basis, and that it will certainly be carried through speedily—if the relations between the two governments remain peaceful—of which we have now not a doubt.

The annual meeting of this company was held in London, C. W., on Monday last, in the court house. George J. Tiffany, Esq., chairman of the company took the chair, and Mr. Gilkison acted as secretary.

Mr. Tiffany opened the proceedings, by explaining what the directors had done since the last meeting. He said that the charter of the Great Western company, as originally issued, provided for a board of management to be displayed by a board of directors, when a proper amount of stock was taken up; that there was some doubt in the minds of a few persons as to the legality of the appointment of the directors of the company, and that, to avoid all danger and difficulty, the board of managers, and the board of directors, had both been kept in force, and had acted concurrently with each other in every step which had been taken. He was therefore of opinion that all their proceedings were quite legal; if the directors were properly appointed so much the better; if they were not, the managers were, and they had full power to administer the affairs of the company under the charter. The directors and managers therefore proceeded to dispose of the stock, and with this view sent Sir Allan McNab and Mr. Ewart to England, with whom they associated Messrs. Buchanan and Cowan, as commissioners, to bring the stock into the English market. These gentlemen almost immediately disposed of the whole stock, in a manner satisfactory to all interested. Mr. Tiffany said it was with regret he alluded to the course pursued by the Canada company towards the Great Western railroad company, and he censured the hostile steps taken by them in severe terms. The railway panic had affected the Great Western stock as it had other stocks; but he felt confident that it would soon recover its former position in the market, and be carried triumphantly into execution. It had formerly risen to a *prem.* of £5 per share, and even yet it was quoted at from 1½ a 2½ per cent. *prem.* There was no doubt that the reports which had been industriously circulated against the company had had a serious effect in England as well as here, but there was no ground for it, and it would soon recover. In justice the directors had deemed it their duty to publish an explanation, but it had not proved satisfactory to the public, because the agreement between the English capitalists and the company's commissioners had not been published. It might easily be seen that the directors could not do this without the consent of the parties

in England; otherwise the directors would have at once laid it before the public.

Great complaints had been raised against the company, because the parties who took up the stock had sold out part of it at a premium. The company had nothing to do with this—they procured *bona fide* stockholders, who are responsible for the full capital wanted, and who had paid 15 per cent. over to them as a first instalment. It had been said that the directors and their agents were parties to the stock being brought out at a premium, but this he expressly denied—it was not so. The agreement was a proper and necessary document, and they would say so when it was read to them; it interfered in no shape with the certainty of the enterprise going on. The Great Western stock was the only Canadian railroad stock quoted in the London share lists; it was selling now at a premium, and there was no truth in the report that the capitalists in London wished to escape from their bargain. If they had wished to escape from it, they could not do so.

Mr. Gilkison read the report.

Mr. Gilkison then read the agreement—which is not under seal. It is impossible to give a correct statement of its contents from hearing it once read—but as far as we could see there was nothing in the document which made it an object on the part of the directors to keep it secret.

John Young, Esq., moved, seconded by Thos. Holcroft, Esquire.

1st. That the report be adopted, and the directors receive the thanks of this meeting.

2nd. That the agreement be approved, and the agents receive the thanks of this meeting.

3rd. That copies of these resolutions be forwarded to England.

4th. That the proceedings be published in the Hamilton, Woodstock, and London papers.

The resolutions were put and carried.

The stockholders then proceeded to ballot for seven directors—Sheriff Hamilton and Adam Hope, Esq., having been appointed scrutineers. After which the meeting broke up.

Great Western railroad company.—Election of directors.

Pursuant to public notice, a meeting of stockholders of the Great Western railroad company was held at the court house, in London, on Monday the 2d February.

George S. Tiffany, Esq., was called to the chair. Mr. J. Wilkison appointed secretary.

The secretary read directors report, and the agreement or contract between the company here and the shareholders in England.

The following resolutions were moved by John Young, Esq., of Hamilton, seconded by Thomas Holcroft, Esq., of Oxford.

Resolved, That the report of president and directors and committee of stockholders, which has just been read, be adopted, and that the thanks of the meeting are due, and are hereby given to them for the efficient manner in which they have conducted the affairs of the company.

Resolved, The agreement entered into by

our agents for the sale of the stock of the company having been read, we take this opportunity of expressing our entire and unqualified approval of the same, and to tender to them, as we hereby do, our warmest thanks for the prompt and efficient manner in which they have discharged the important trust committed to them.

Resolved, That a copy of the last resolution be forwarded to each of the agents.

Resolved, That the foregoing resolutions be published in the London, Woodstock, and Hamilton papers.

Moved by John V. Hott, Esq., seconded by James B. Ewart, Esq., and

Resolved, That Mr. Sheriff Hamilton, and Adam Hope, Esq., be requested to act as secretaries.

(Signed)

G. S. TIFFANY,
Chairman.

The secretaries declared the following gentlemen duly elected directors of the Great Western railroad company:—

Sir Allan N. Macnab, of Dundurn; James B. Ewart, Esq., of Dundas; George S. Tiffany, Esq., of Hamilton; John V. Hott, Esq., of Hamilton; Peter Carroll, Esq., of Hamilton; Robert W. Harris, Esq., of Hamilton; Henry McKinstry, Esq.

J. T. GILKISON, Secretary.

London, (Canada), Feb. 2, 1846.

Report to the stockholders of the Great Western railroad company.

The board of directors and general committee of management appointed by the stockholders, beg leave to make a joint report of their proceedings.

In August last, agents were appointed to proceed to England, for the purpose of disposing of a portion of the capital stock of this company, which they effected in a most able and satisfactory manner, having sold 55,000 shares at £25 currency each, upon which a deposit of £3 5s. sterling was immediately paid, as will most satisfactorily appear from the contract or agreement submitted to the meeting.

The stipulations on the part of the company here have been executed, by the transmission to their secretary in England of the final certificates, to the number of 55,000, to be delivered to the shareholders in pursuance of their agreement.

The last election of directors took place under a by-law of the company, adopted under the old charter, and revised by the new, but to obviate any doubt as to their legal authority, a committee of management was also appointed, who have acted throughout, in conjunction with the board of directors in the appointment of agents and conducting the affairs of the company.

The board have placed themselves in correspondence with an eminent engineer, whose services they have temporarily engaged, and hope will be enabled permanently to secure. Two surveying parties have been engaged in taking levels, with a view to ascertain the most practicable route of ascending the hill at Hamilton, and it is gratifying to find that no obstacle presents itself in accomplishing the object.

The board of directors felt it to be their duty early in January, to contradict certain statements contained in the *Times* and other newspapers, prejudicial to the company, that report they trust proved satisfactory to the stockholders, and they are happy to say, the advices received from England since the publication of their report, fully enables them to give the most confident assurances that the work will be vigorously proceeded with, should our friendly relations with the United States not be disturbed.

By order, J. T. GILKISON, Sec'y.
GREAT WESTERN RAILROAD OFFICE,
Hamilton, Jan. 31st, 1846.

GREAT WESTERN RAILROAD OFFICE,
Hamilton, Feb. 5th, 1846.

At a meeting of the board of directors this day, Sir Allan N. Macnab was unanimously elected president, and George S. Tiffany, Esq., chairman.

W. M. Shaw, Esq., having retired from the direction, was appointed a resident engineer to the company.

J. T. GILKISON, Secretary.

The following statement is from the eleven gentlemen in London who originally took the shares of the agents who went to London to dispose of them, and is certainly does not show a disposition to back out.

To the Shareholders of the Great Western of Canada Railway Company.

The attention of the undersigned, the corresponding committee of the Great Western of Canada railway company, has been called to a report in the *Morning Chronicle*, of the 31st December, of a speech by Charles Franks, Esq., the governor of the Canada company, at a meeting of that company, in which it is stated to be doubtful whether the Great Western of Canada railway will now be made.—The committee feel that such a statement could only have proceeded from a gentleman of the character and standing of the governor of the Canada company under a misapprehension of the real facts of the case, and as they are aware that various mis-statements regarding the company have from time to time been circulated, they consider that their duty to themselves and to the undertaking, as well as to their fellow shareholders and the directors in Canada, requires them to give an official reply.

The Great Western of Canada railway was taken up by them because, after a careful examination of the facts connected with it, they were satisfied that it was an undertaking calculated to afford a large profit to those who should embark their capital in it. The facts contained in the original statement, which were carefully scrutinized before they were put forth, speak for themselves; and the committee were convinced that a line, which forms a connecting link between railways, already paying 8 or 10 per cent., although less favorably situated and only partly developed,—which presents such uncommon facilities for execution—which commands a large existing traffic, and whose prospects of development, as forming a portion of the great highway between the rapidly rising western states of America and the Atlantic are almost unlimited;—afforded an opportunity for advantageous investment rarely equalled.

There was nothing provisional in the undertaking which was already a constituted com-

pany under an act of the most favorable description, the preliminary expenses incurred being quite inconsiderable. Under these circumstances the whole capital stock of the company, was subscribed for by responsible parties, who assumed the full liabilities of shareholders, subject to the fulfilment by the directors in Canada, of the condition stipulated for with Sir Allan Macnab and his colleagues, for ensuring protection and control to the English shareholders. The whole stock having been taken, the public were not invited to apply for shares, but a large number were disposed of to parties whom the original subscribers thought likely to be useful to the undertaking, and others were sold openly like the stock of any other established company, to parties desirous of purchasing them at prices, as the committee fully believe, below their intrinsic value.

Under these circumstances, there is no analogy whatever, between the position of the Great Western of Canada railway company and that of provisional companies, whose shareholders have not been completed. A temporary depression in the market value of the shares, owing to a panic affecting equally every other description of railway property, may possibly be a valid reason, in the latter case, for calling upon the provisional committees, to dissolve the undertakings, and return the deposits.—But in the case of the Great Western railway company of Canada, the act is obtained, the share list is complete, the payment of the three first calls provided for in advance, and the committee, who are large shareholders in the undertaking, and all far to sensible of the advantages to be derived from the possession of a charter of such an extremely favorable nature to be desirous of relinquishing them on account of a temporary depression in the money market, which has already in a great measure passed away.

As long as any doubt remains as to the aspect of our political relations with the United States, the shareholders may rest assured that the committee have much too large at stake, in the concern themselves, to proceed otherwise than with extreme caution and prudence, before they sanction the commencement of any proceedings which might involve a heavy outlay or any further calls, but with this exception, the committee are aware of nothing calculated to create a doubt that the line will be completed and in effective operation in two years from its commencement, and that it will at once assume a position as one of the best dividend paying lines in America, or elsewhere. Their confidence in the commercial capabilities of the undertaking is not only unshaken, but has been confirmed by all the information which they have subsequently received, as well as by the opinion of many gentlemen of the highest respectability intimately acquainted with Canada. There is also a strong probability that the line may be constructed for a sum very far within the amount of capital originally stated: and with a view to test this and to pave the way for an active commencement of operations at the earliest period, and in the most efficient and economical manner, the committee are making arrangements for obtaining a detailed survey and report, the result of which will be duly communicated to the shareholders.

The numerous public meetings which have been held in the colony in favor of the Great Western railway, the testimony of the colonial press, and the enthusiasm with which the intelligence of the success of Sir Allan Macnab's mission to England has been received in Can-

nada, afford the best proof of the estimation in which the line is held in the province.

Entertaining this confidence in the goodness of the concern in which they are so largely embarked, the committee can only advise those gentlemen who hold shares to rest assured that the undertaking would never have been entered into or persevered in by the committee, unless they were satisfied that it deserved the support of the public as a safe and profitable investment for money.

William James Chaplain, Charles Devaux, Henry John Enthoven, Abel Lewis Gower, George Hudson, Samuel Laing, John Masterman, Jr., John Moss, Thomas Smith, Matthew Uzielli, Gregory Seale Walters.
London, Jan. 13th, 1846.

Baltimore and Ohio Railroad Extension.

The Virginia legislature has taken one step in the right direction; others will be sure to follow in time.

The following act has been passed by the Virginia legislature, in reference to the Baltimore and Ohio railroad company.

an act, supplementary to and amendatory of the act, entitled, "an act to authorize the Baltimore and Ohio railroad company to complete their road to the Ohio river and for other purposes," passed February 19th, 1845. Passed February 28th, 1846.

Be it enacted by the general assembly, that so much of the thirteenth section of the act of the nineteenth of February, eighteen hundred and forty-five, entitled, "an act to authorize the Baltimore and Ohio railroad company to complete their road to the Ohio river and for other purposes," as requires the said company to adopt and accept the said act on or before the tenth day of March, eighteen hundred and forty-six before they shall enjoy the benefits of that act, be and the same is hereby repealed; and the said company are hereby allowed ten years, from the tenth day of March, eighteen hundred and forty-seven, to complete their railroad to the city of Wheeling, according to the terms and conditions of the said act of the nineteenth of February eighteen hundred and forty-five, except as is provided for in this act—provided that the said company shall enter upon the construction of the extension of their said road, within three years from the passing of this act.

And be it further enacted, that with the assent and agreement of the Winchester and Potomac railroad, the said Baltimore and Ohio railroad company are hereby permitted and allowed to purchase, take and accept the Winchester and Potomac railroad, in pursuance of the seventh, eighth, ninth, tenth, eleventh and twelfth sections of the said act of the nineteenth of February, eighteen hundred and forty-five, relating to the Winchester and Potomac railroad.

And be it further enacted, that the taxing power reserved in the sixth section of the said act of the nineteenth of February, eighteen hundred and forty-five, shall not be exercised until and unless the nett income of the said Baltimore and Ohio railroad shall exceed six per centum per annum.

This act shall be in force from the passing thereof.

Winchester and Potomac Railroad.

We are glad to learn, says the Baltimore American, by the following article from the

Winchester Republican, that this work, which constitutes, practically, an important branch of the Baltimore and Ohio railroad, has been placed on a better footing by recent legislation obtained from the Virginia legislature.

W. & P. Railroad Company.—The legislature at the session which has just terminated, with the liberality which has for the most part characterized her policy, passed a bill for the relief of this company that has given an impetus to public sentiment in its favor, that cannot well fail to place the improvement in a state of the highest usefulness in a short time, and in a few years to reimburse the stockholders in the way of dividends upon their stock for their aid in establishing this great public convenience.

The features of the law, we learn, are these: on the 1st, August, 1848, and annually thereafter, the company is required to pay in lieu of interest upon the debt due the state and dividends upon the state stock, an annuity of five thousand dollars, reserving the lien already existing, but suspending the collection of the debt so long as the annuity is paid. Leaving still to the stockholders the right to sell the road to the B. & O. R. R. company if they choose.

Efforts are now making to raise a fund, with every prospect of success, to re-iron the road, which, when done, (the road being in a very good condition in its woodwork to receive it) will put it in a state to transport with celerity and safety, all the trade and travel that may offer.

Isthmus of Panama.

We take from a late European journal, says the National Intelligencer, the following summary of another report on the European project of canalizing the isthmus which separate the Atlantic and Pacific oceans:

Some time since M. GARELLA received a commission from the French government to proceed to Panama for the purpose of inquiring upon the spot into the practicability of the many schemes which have been devised for cutting a ship-canal through the isthmus. The report of that gentleman on this subject has recently been published, and presents (says the Debats) the results of the first scientific exploration that has been undertaken in regard to this celebrated passage. The direction fixed upon by Mr. Garella as the most eligible for the proposed canal is on the side of the Pacific ocean, through the valley of the Caimito, so as to *debouche* upon the sea at the anchorage of Vaco de Monte, lying about eighteen or twenty kilometres (eleven or twelve miles) to the west of Panama. On the side of the Atlantic ocean the course should be along the valley of the river Chagres, but not to terminate at Port Chagres, which is inaccessible to ships of large burden, but at four miles distance in the bay of Simon. From the Caimito, the canal is to be directed along the course of the Bernardino, a feeder of that river whence it proceeds to the Ahogayegua mountain, which it crosses at a point where it is 455 feet above the level of the sea.—Thence it falls into the valley of the river Pajer, (otherwise Bonito,) which it follows as

far as Dos Hermanas, where it joins the Chagres, parallel with which river, and sometimes occupying its bed, the canal is to be carried as far as Gafun, where it diverges to arrive at the bay of Simon. The whole distance will be about 47 miles in length, of which 33 1/2 are between the Chagres and the Pacific, 7 1/2 between the Chagres and the bay Simon, and about 6 along the bed of the river itself. The canal is to be of the following dimensions: depth, 22 feet 9 inches; breadth at water surface, 146 feet 6 inches; at bottom, 65 feet. Ninety-four locks will be required in order to reach the summit level, each costing on the average 600,000 francs. M. Garella, however, suggests the magnificent expedient of the tunnel through the mountain, which, besides the dimensions stated above for the canal itself, must be of height sufficient to permit the passage of vessels with their lower masts standing 120 feet at least, and will be three miles and one-third in length. The estimated cost of the tunnel is fifty millions of francs, but it will enable

the canal to be constructed with a summit level of only 160 feet, and greatly enhance the future advantages of the undertaking by dispensing with by far the greater number of the locks. The total expense of the canal is estimated at 125 millions francs, (five millions sterling.)

The Atlantic and St. Lawrence Railroad. We are informed, says the Portland Argus, that ground will be broken on our railroad to the St. Lawrence, by May next—and also that the Canadians will commence their end of the road at the same time. The preliminary arrangements are going on with vigor, and every thing "gives sign" of a prosperous issue to the enterprise.

Pennsylvania Legislature.—The bill giving the New York and Erie railroad the right of going through Pike and Wayne counties was considered on its second reading in the senate, on Friday.

An amendment was adopted, requiring the company to pay to the state \$10,000 annually, on the first of January, as soon as the railroad is completed to Dunkirk, or a connection formed with any railroad at Erie—yeas 24, nays 6.

KITE'S PATENT SAFETY BEAM.

Messrs. Editors.—As your Journal is devoted to the benefit of the public in general I feel desirous to communicate to you for publication the following circumstance: of no inconsiderable importance, which occurred some few days since on the Philadelphia, Wilmington and Baltimore railroad.

On the passage of the evening train of cars from Philadelphia to this city, an axle of our large 8 wheeled passenger car was broken, but from the particular plan of the construction, the accident was entirely unknown to any of the passengers, or, in fact, to the conductor himself, until the train, (as was supposed from some circumstances attending the case,) had passed several miles in advance of the place where the accident occurred, whereas had the car been constructed on the common plan the same kind of accident would unavoidably have much injured it, perhaps thrown the whole train off the track, and seriously injured, if not killed many of the passengers.

Wilmington, Del., Sept. 28, 1840.

The undersigned takes pleasure in attesting to the value of Mr. Joseph S. Kite's invention of the Safety Beam Axle and Hub for railroad cars. They have for some time been applied to passenger cars on this road, and experience has tested that they fully accomplish the object intended. Several instances of the fracture of axles have occurred, and in such the cars have uniformly run the whole distance with entire safety. Had not this invention been used, serious accidents must have occurred.

In short, we consider Mr. Kite's invention as completely successful in securing the safety of property and lives in railroad travelling, and should be used on all railroads in the country.

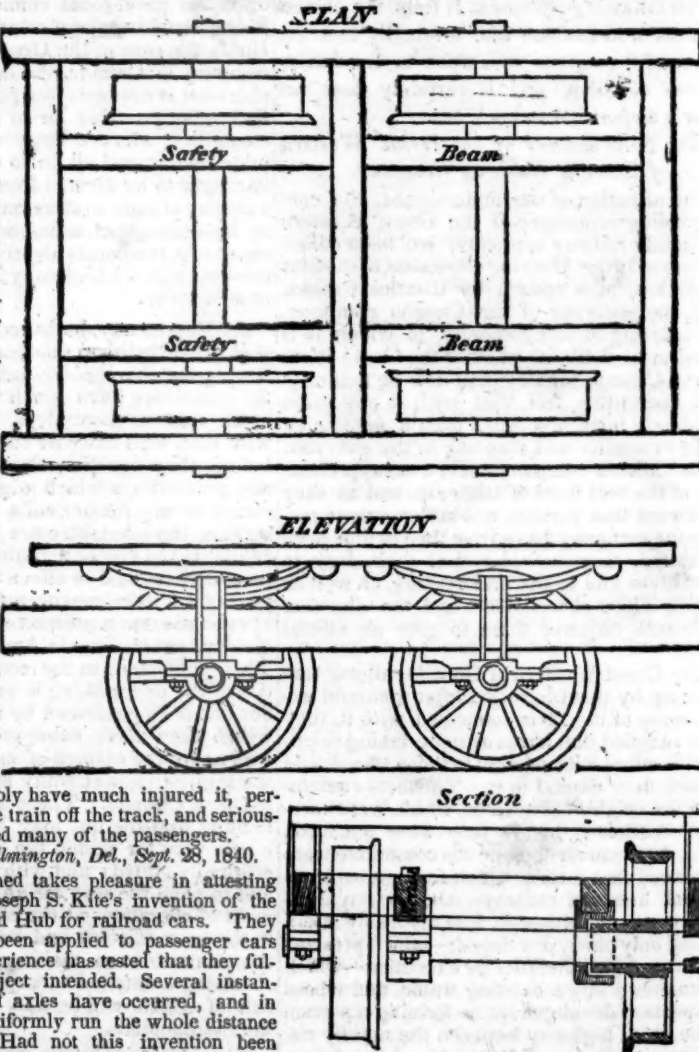
JOHN FRAZER, Agent,

GEORGE CRAIG, Superintendent,

A model of the above improvement is to be seen at the New Jersey railroad and transportation office, No. 1 Hanover st., N. York.

JAMES ELLIOTT, Sup. Motive Power,

W. L. ASHMEAD, Agent.



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PATENT HAMMERED RAILROAD, SHIP and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed. **JOHN F. WINSLOW, Agent.**

Albany Iron and Nail Works, Troy, N. Y.
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merritt, New York; J. H. Whitney, do.; E. J. Etting, Philadelphia; Wm. E. Coffin & Co., Boston. ja45

PATENT RAILROAD, SHIP AND BOAT Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York, will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by I. & J. Townsend, Albany, and the principal Iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janvier, Baltimore; Degrand & Smith, Boston.

•• Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

ja45

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN Railroads, Railroad Directors and Managers are respectfully invited to examine an improved SPARK ARRESTER, recently patented by the undersigned.

Our improved Spark Arresters have been extensively used during the last year on both passenger and freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air, smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

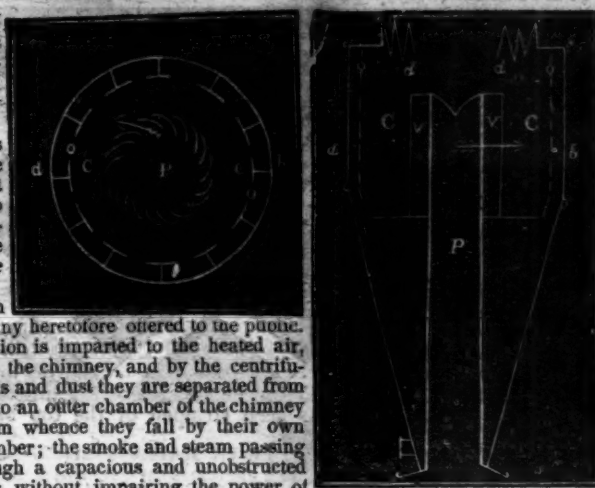
These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

E. A. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburg and Jackson Railroad, Vicksburg, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. M'Kee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterns, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckley & Drury, Boston, will be promptly executed. **FRENCH & BAIRD.**

N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms. Philadelphia, Pa., April 6, 1844.

•• The letters in the figures refer to the article given in the Journal of June, 1844. ja45



BENTLEY'S PATENT TUBULAR STEAM BOILER. The above named Boiler is similar in principle to the Locomotive boilers in use on our Railroads. This particular method was invented by Charles W. Bentley, of Baltimore, Md., who has obtained a patent for the same from the Patent Office of the United States, under date of September 1st, 1843—and they are now already in successful operation in several of our larger Hotels and Public Institutions, Colleges, Alms Houses, Hospitals and Prisons, for cooking, washing, etc.; for Bath houses, Hatters, Silk, Cotton and Woollen Dyers, Morocco dressers, Soap boilers, Tallow chandlers, Pork butchers, Glue makers, Sugar refiners, Farmers, Distillers, Cotton and Woollen mills, Warming Buildings, and for Propelling Power, etc., etc.; and thus far have given the most entire satisfaction, may be had of D. K. MINOR, 23 Chambers st. New York.

The article is complete in itself, occupies but little space, is perfectly portable, and requires no brick work, not even to stand upon. It is valuable not only in the saving of time and labor, but in the economy of fuel, as it has been ascertained by accurate measurement, that the saving in that article is fully two-thirds over other methods heretofore in use. They are now for the first time introduced into New York and Boston by the subscriber, who has the exclusive right for the New England states, New York and New Jersey, and are manufactured by

CURTIS & RANDALL, Boston; and by FORCE, GREEN & CO. New York.

LARD OIL FOR MACHINERY, ETC.—Winter pressed, cleansed from gum, and manufactured expressly for engines and machinery of all kinds, railroads, steamboats, woollen and other manufactures, and for burning in any lamp without clogging the wick. Engineers of railroads and others who have used this oil, and to whom reference can be made, give it preference over the best sperm for its durability, and not requiring to be cleaned off like that, and costing about two-thirds the price. For sale by the barrel, and samples can be sent for trial, by addressing **C. J. F. BINNEY,** Agent for the Manufacturer, Boston, Mass.

11 eop 1m

FLAT BAR, ENGLISH ROLLED, RAILROAD Iron, 2 1/2 x 1/4—a large part suitable to relay. For sale by **C. J. F. BINNEY,** Commission Merchant, 1 City Wharf, Boston, Mass.

11 1m

Dividend.—The New Haven and Hartford railroad have declared a semi-annual dividend of three and a half per cent, payable on the first of April.

At a meeting of the board of the Morris Canal company on Wednesday, Benjamin Williamson, Esq., was elected president.

RAILROAD IRON. 500 TONS HEAVY T Rails, of an approved pattern, expected to arrive here during March, or early in April.

Apply to **DAVIS, BROOKS & CO.** March 5, if 30 Wall street.



No 23 Pear street, near Third, below Walnut, Philadelphia.

NOTICE TO CONTRACTORS. PRO-posals will be received at Bridgeport, until the 20th of March next, for re-laying the Housatonic railroad with an H rail.

Specifications will be furnished at the office of the undersigned, in Bridgeport, on and after the 20th February. **R. B. MASON, Engineer.** Bridgeport, February 4, 1845. 8 5t

RAILROAD IRON.—The subscriber having taken contracts for all the Railroad Iron he can manufacture at his Iron Works at Trenton, until July next, will gladly receive orders for any quantity to be delivered after that time, not exceeding thirty tons per day. Also has on hand and will make to order Bar Iron, Braziers' Rods, Wire Rods and Iron Wires of all sizes, warranted of the best quality. Also manufactures and has on hand Refined American Isinglass, warranted equal in strength to the Russian. Also on hand a constant supply of Glue, Neats' Oil, &c. &c.

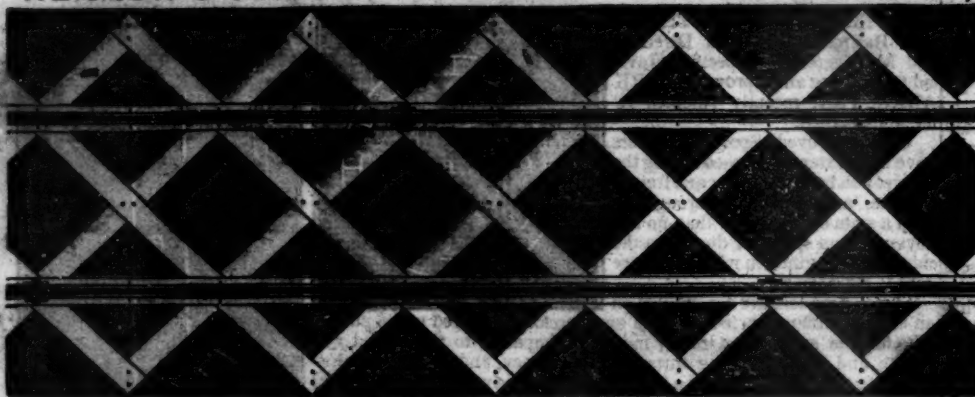
PETER COOPER, 17 Burling Slip. New York, January 23d, 1846. 1y 10

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floors and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by **JOHN W. LAWRENCE,** 142 Front street, New York.

Orders for the above will be received and promptly attended to at this office. 32 1y

HERRON'S PATENT AMERICAN RAILWAY TRACK,



As seen stripped of the top ballasting

**HERRON'S IMPROVEMENTS IN RAIL-
WAY SUPERSTRUCTURE** effect a large aggregate saving in the working expenses, and maintenance of railways, compared with the best tracks in use. This saving is effected—1st, Directly by the amount of the increased load that will be hauled by a locomotive, owing to the superior evenness of surface, of line and of joint. This gain alone may amount to 20 per cent. on the usual load of an engine.—2d, In consequence of the thorough combination, bracing, and large bearing surface of this track, it will be maintained in a better condition than any other track in use, at about one-third the expense.—3d, As action and reaction are equal, a corresponding saving of about two-thirds will be effected in the wear and tear of the engines and cars, by the even surface and elastic structure of the track.—4th, The great security to life, and less liability to accident or damage, should the engine or cars be thrown off the rails.—5th, The absence of jar and vibration, that shake down retaining walls, embankments and bridges.—6th, The great advantage of the high speed that may be safely attained, with ease of motion, reduction of noise, and consequently increased comfort to the traveller.—7th, The really permanent and perfect character of the Way, insuring regularity of transit. To which may be added the great increase of travel, that would be induced by the foregoing qualities to augment the revenue of the railroad.

The cost of the Patent track will depend on the quantity and cost of iron and other materials; but it will not exceed, even including the preservation of the timber, the average cost of the tracks on our principal railroads. Generally, the timber structure, fastenings and workmanship, exclusive of the cost of the iron rails, will be from \$2,300 to \$4,000 per mile. On this structure, rails of from 40 to 50 lbs. per yard, will be equal in effect to

60 and 70 lbs. rails laid in the usual way. The proprietors of a road, furnishing approved materials in the first instance, the undersigned will construct the track on his plan in the most perfect manner, with recent improvements, for one thousand dollars per mile. And he will farther contract to maintain said track for the period of ten years, furnishing such preserved timber and iron fastenings as may be required, and keeping said track in perfect adjustment, under any trade not exceeding 100,000 tons per annum, or its equivalent in passenger transportation, for *Two hundred dollars per mile per annum.* To insure the faithful performance of this contract, he will pledge one-fourth of the cost of construction, with the accruing interest thereon, regularly vested, until the completion of the contract. So that a company, by securing payment to the undersigned at the specified period, will have only \$750 per mile to pay for the workmanship on the track, without any charge being made for the use of the patent, the subsequent payments, for maintenance of way, and amount will be made from the large margin of profits that will result from its use.

JAMES HERRON.

Civil Engineer and Patentee.

No. 277 South Tenth St., Philadelphia.

* A general average of the repairs done on six of the most successful railroads in this country, for a period of from six to eight years' use has been found to exceed \$625 per mile per annum, exclusive of renewal of rails. But few roads in this country carry as much as 100,000 tons per annum. When a road exceeds that quantity, the repairs due to the additional tonnage, up to 200,000 tons, will be charged at one mill per ton; over the latter, and not exceeding 300,000 tons, nine-tenths of a mill, etc. Where there are two tracks to maintain, a large reduction upon those rates will be made.

1y1

W. R. CASEY, CIVIL ENGINEER, NO. 23 Chambers street, New York, will make survey estimates of cost and reports for railways, canals, roads, docks, wharves, dams and bridges of every description. He will also act as agent for the sale of machinery, and of patent rights for improvements to public works.

TO LOCOMOTIVE AND MARINE ENGINE BOILER BUILDERS. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS,

Warehouse S. E. corner 3d and Walnut Sts., Philadelphia 11t

C. J. F. BINNEY, GENERAL COMMISSION MERCHANT and Agent for Coal, and also Iron Manufactures, etc.

No. 1 CITY WHARF, Boston. Advances made on Consignments. Refer to Amos Binney, Boston. Grant & Stone, Brown, Earl & Erringer, } Philadelphia. Weld & Seaver, Baltimore.

December 8, 1845.

1m 50

SCRIBNER'S ENGINEERS' AND MECHANICS' COMPANION. For sale at this office. Price \$1.50.

A. & G. RALSTON & CO., NO. 4 South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz: 180 tons 2½ x ½ inch Flat Punched Rails, 20 ft. long. 25 " 2½ x ½ " Flange Iron Rails. 75 " 1 x ½ " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures.

SPRING STEEL FOR LOCOMOTIVES, Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1½ to 6 inches in width, and of any thickness required; large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent, Albany Iron and Nail Works, Troy, N. Y. 11y

RAILROAD IRON WANTED. Wanted, 50 tons of Light Flat Bar Railroad Iron. The advertisers would prefer second-hand iron, if not too much worn. Address Box 384 Philadelphia P. O.—Post paid. 8 4t

THE AMERICAN RAILROAD JOURNAL is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

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S. VAIL, Speedwell Iron Works, near Morristown, N. J. (See Adv.)
NORRIS, BROTHERS, Philadelphia Pa. (See Adv.)
KITE'S Patent Safety Beam. (See Adv.)
FRENCH & BAIRD, Philadelphia, Pa. (See Adv.)
NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (See Adv.)
ROSS WINANS, Baltimore, Md.
CYRUS ALGER & Co., South Boston Iron Company.
SETH ADAMS, Engineer, South Boston.
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WEST POINT FOUNDRY, N. Y.
PHENIX FOUNDRY, N. Y.
R. HOE & Co., N. Y.
ANDREW MENEELY, West Troy.
JOHN F. STARR, Philadelphia, Pa.
MERRICK & TOWNE, do.
HINCKLEY & DRURY, Boston.
C. C. ALGER, Stockbridge Iron Works, Stockbridge, Mass.
BALDWIN & WHITNEY, Philadelphia, Pa.
THOMAS & EDMUND GEORGE, Philadelphia. (See Adv.)

PROVIDENCE AND WORCESTER Railroad.—Notice to Contractors.

The Route of this Road will be prepared for Examination by Contractors on the 16th of February, and Proposals for the Graduation, Masonry, Bridges, Timber, Spikes, Chains, etc., will be received after that date, until the 25th of February.

Blank Proposals, with Specifications attached, may be obtained, and the Profiles examined, at the offices in Worcester and Providence, after the 16th of February.

T. WILLIS PRATT, Engineer.

MANUFACTURE OF PATENT WIRE Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers, etc., by **JOHN A. ROEBLING,** Civil Engineer, Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition. 2v19 1y

BACK VOLUMES OF THE RAILROAD JOURNAL for sale at the office, No. 23 Chambers street.